

WELCOME TO THE IDBM NEPPI 2020

Introduction

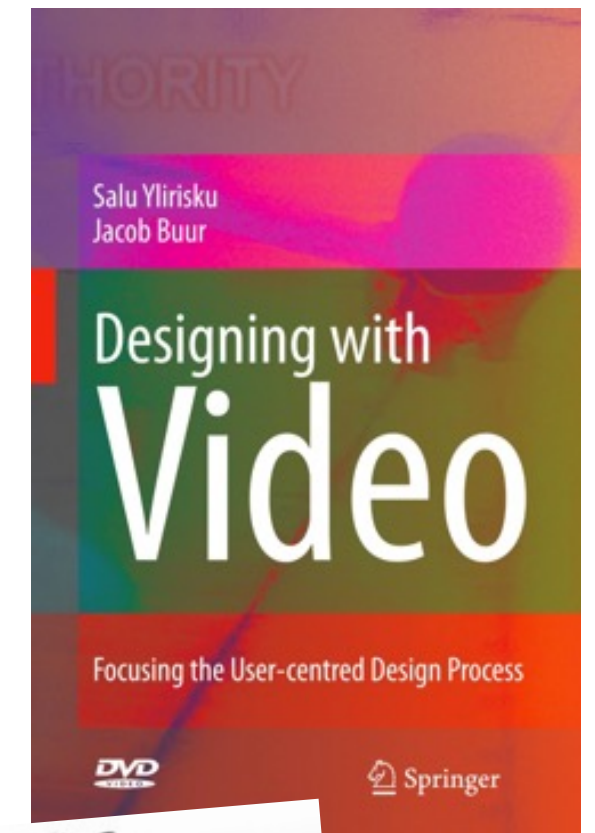
Dr. Salu Ylirisku, Senior University Lecturer

Aalto University, School of Electrical Engineering,
Dept. of Electronics and Nanoengineering

Salu Ylirisku



- **Doctor of Arts / Concept Design / Aalto University**
- **Master of Science / Interaction Design / Univ. of Helsinki**
- **Over 20 years experience of human-centred design practices and action-based design**



2007

TODAY'S SCHEDULE

09:15-10:00 Introduction to the course, Salu Ylirisku

10:15-10:40 Citizen Science: Everyday People Contribute to Data/
Analyses, Sampsa Fabritius

10:45-11:15 Critical Science and Politics of Participation,
Nitin Sawhney

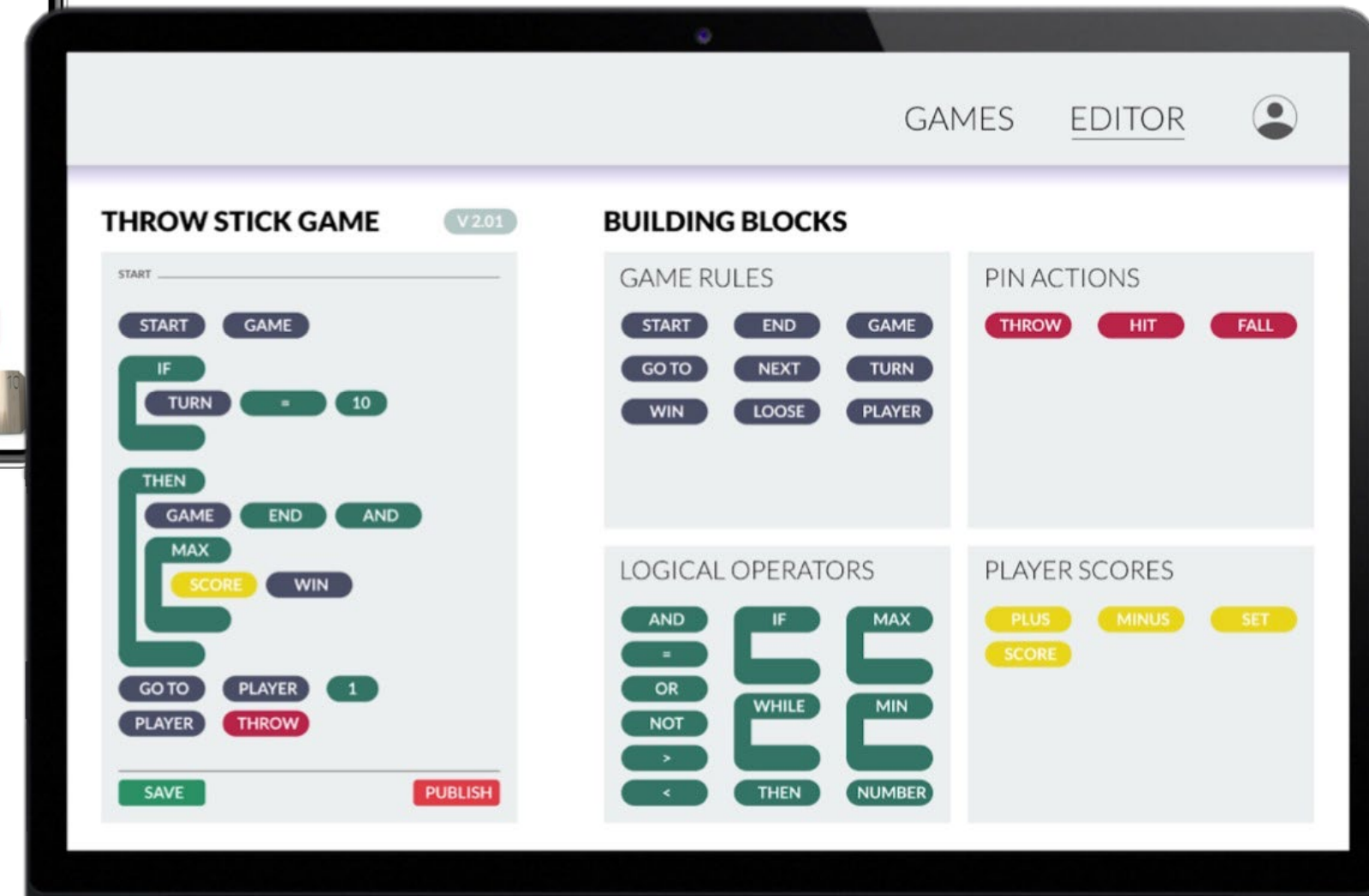
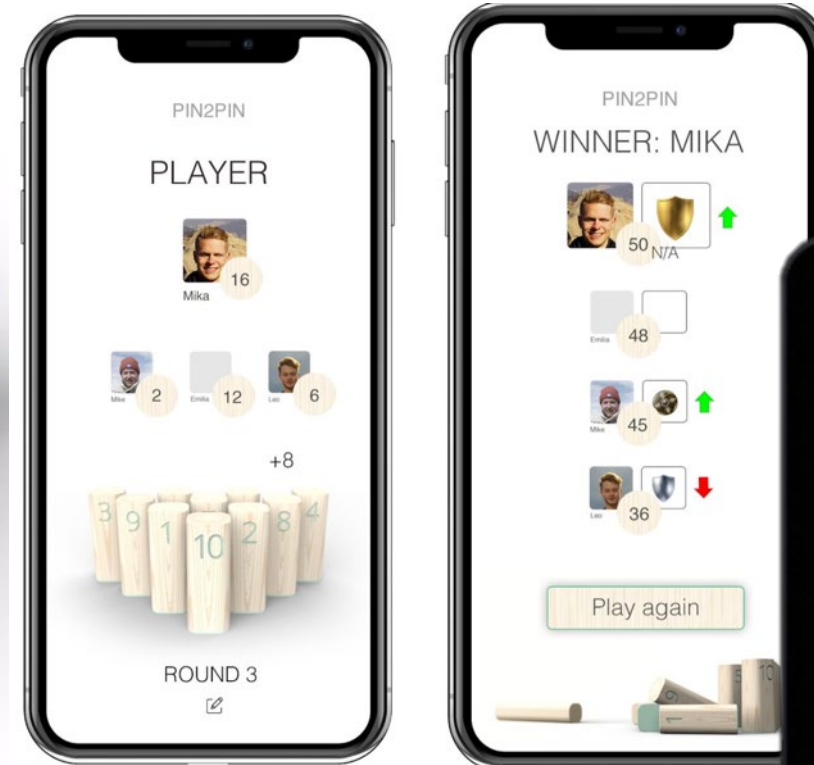
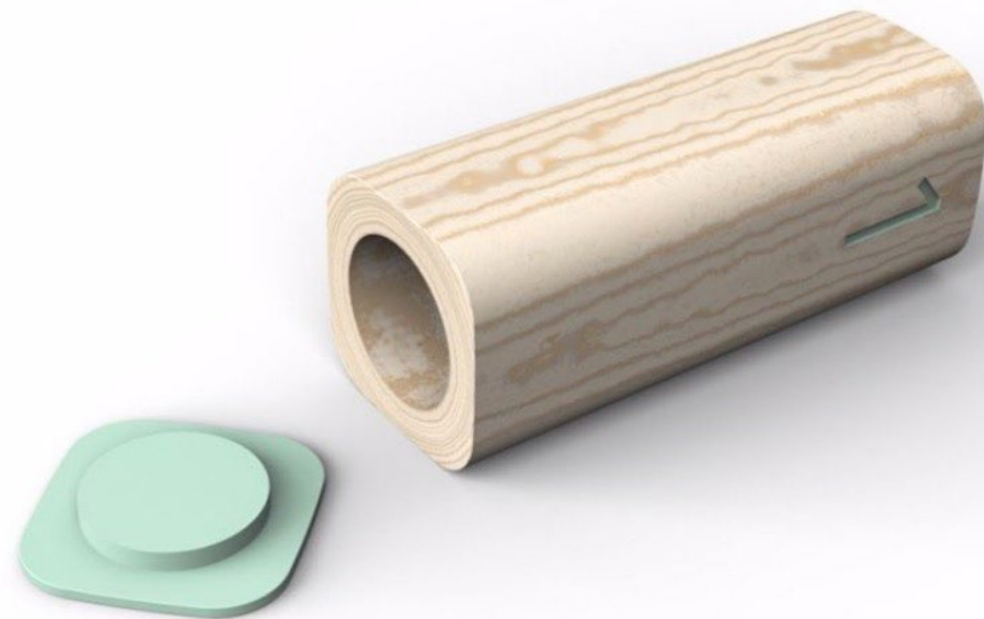
11:15-11:45 Discussion about the project

Learning goals

- Multi-stakeholder concepting in the context of networked technology development
- Sensitivity to the many dilemmas and tensions related to new technology development
- Knowledge about possible technical solutions for networked products and services

Pin2Pin

- This was done in the first NEPPI project, and implemented in the AEE Project Work course by the approval of the NEPPI student team.

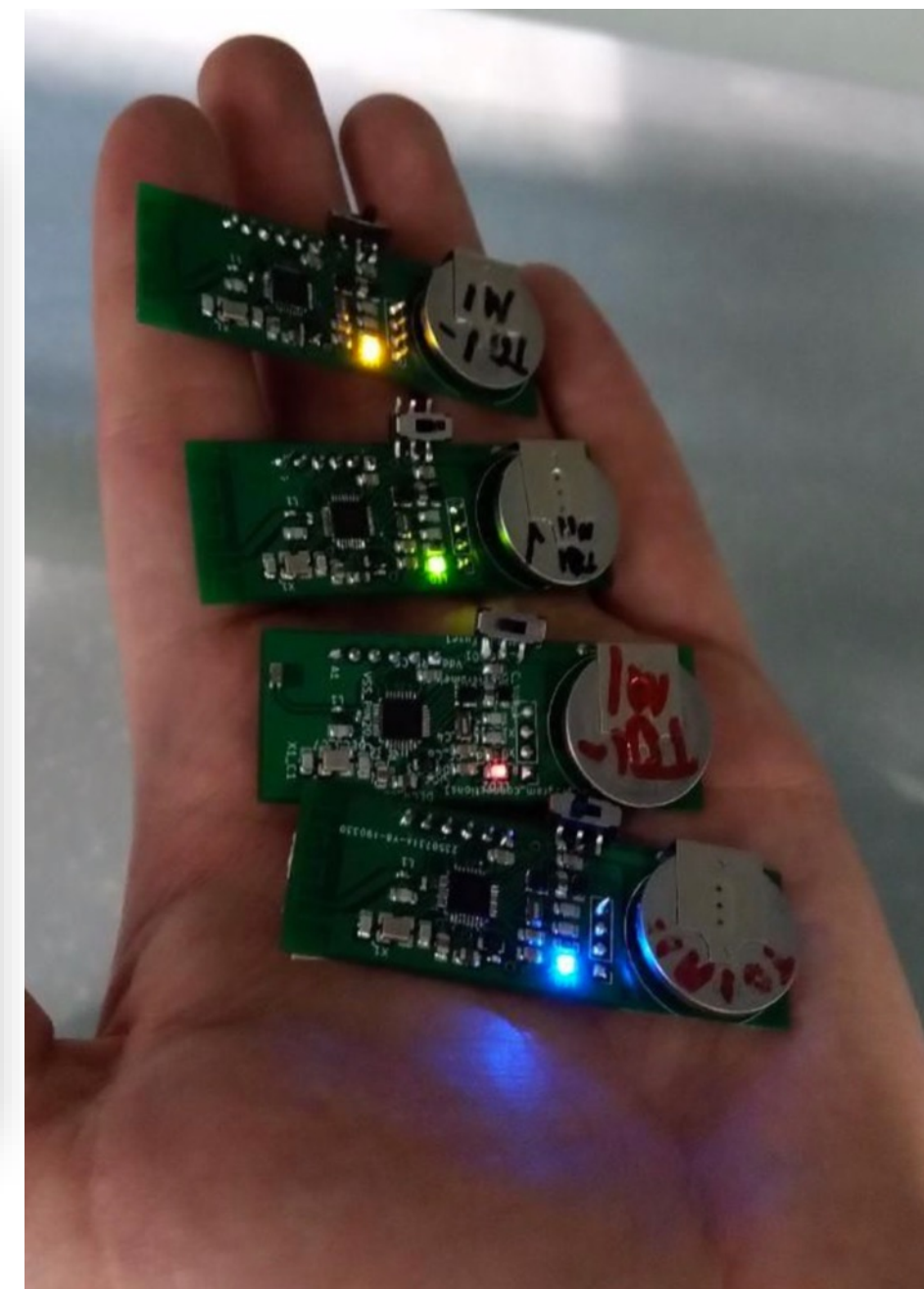
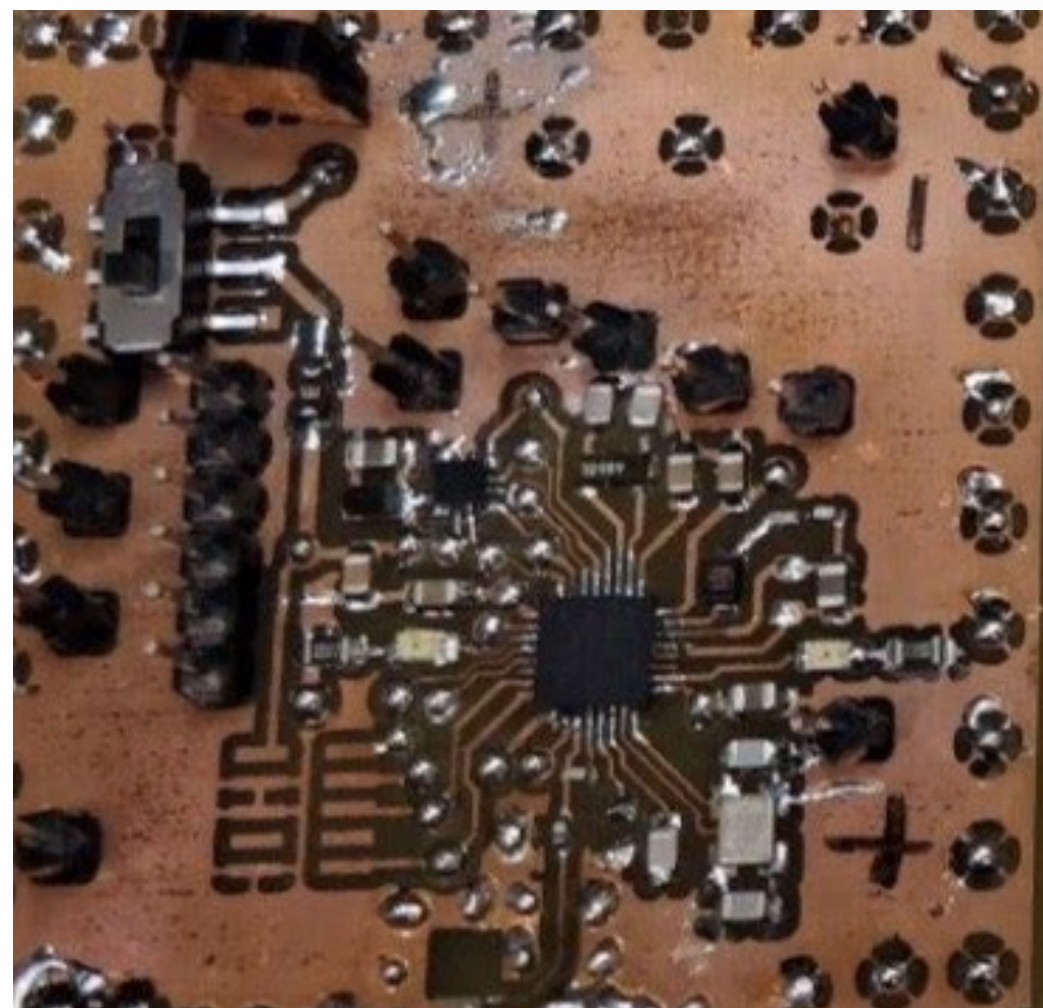


Pin2Pin

- This was done in the first NEPPI project, and implemented in the AEE Project Work course by the approval of the NEPPI student team.



Miniaturizing & cost- and power-optimization is a slow and expensive process





Button Battery
 Model: Enoughlec - CR2032
 Capacitance: 210 mah * 4
 Price: 0.03 e * 4

Switch
 Model: TS - 20
 Price: 0.01 e

Lora & Antenna
 Model: SX1278 LoRa Module 433M 10K
 Price: 6.09 e

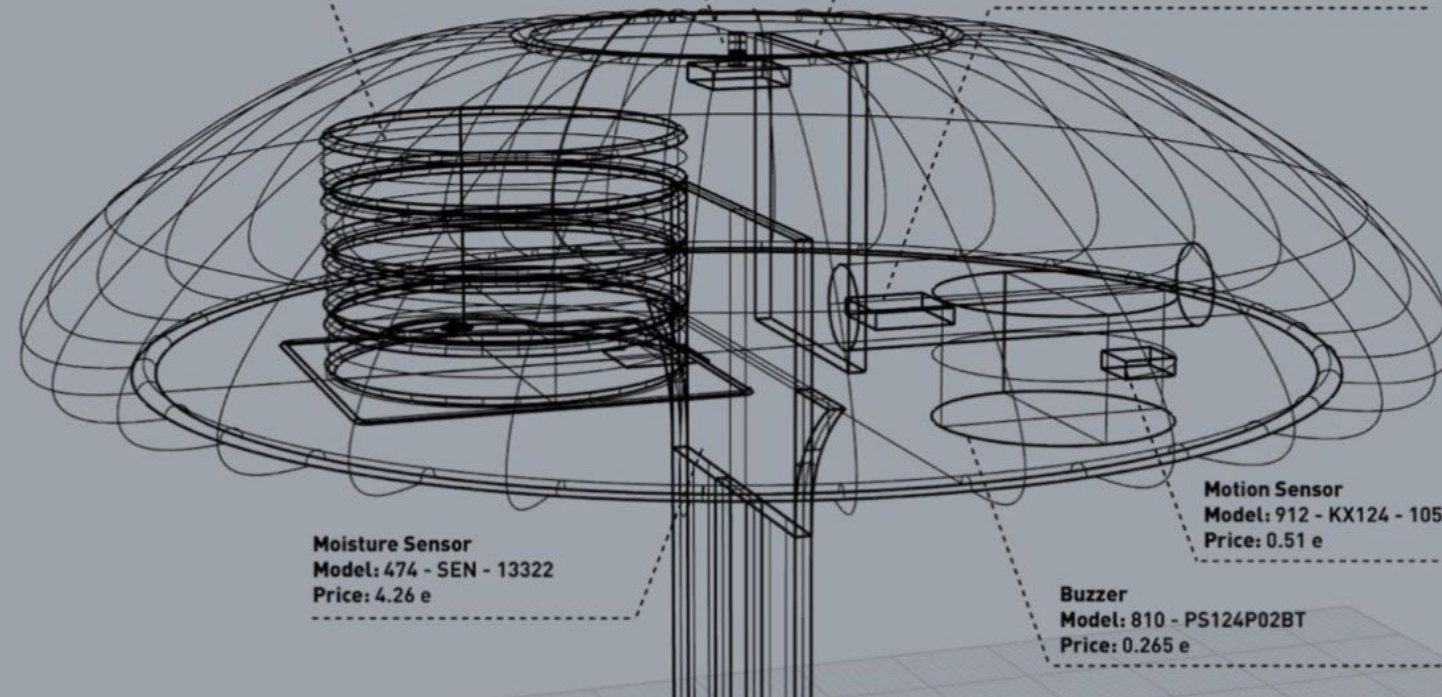
ADC & MCU
 Model: nRF52810
 Price: 1.73 e

Moisture Sensor
 Model: 474 - SEN - 13322
 Price: 4.26 e

Buzzer
 Model: 810 - PS124P02BT
 Price: 0.265 e

Motion Sensor
 Model: 912 - KX124 - 1051 - FR
 Price: 0.51 e

TOTAL: 12.00 e



Mushrooms
 Find the best place where you could find good mushrooms



Herbs
 Recommendation for you to plant your own herbs



Booking
 Book a planting space in the park which suitable for your plants



Find a bench

Next free bench
 Toukolan rantapuisto | 6 min →



Product Life



20

Seconds / Time

3

Times / Day

150

Days / Year



× 4 = **3** Years

NEPPI - Vallisaari

<https://neppi.aalto.fi/neppi-at-flash-vallisaari/>

Some of the NEPPI 2018 results



Project-Based Course

- Teamwork in teams of 4-6
- Team members will have different roles / specializations
 - Web
 - Things
 - Reflection/Persuasion (Leadership)

- Project theme: The Power of Knowing

Teams – Let's take a look

- https://miro.com/app/board/o9J_khHCAss=/



**The Project's Goal is to Define a
Transformation Opportunity Concept**

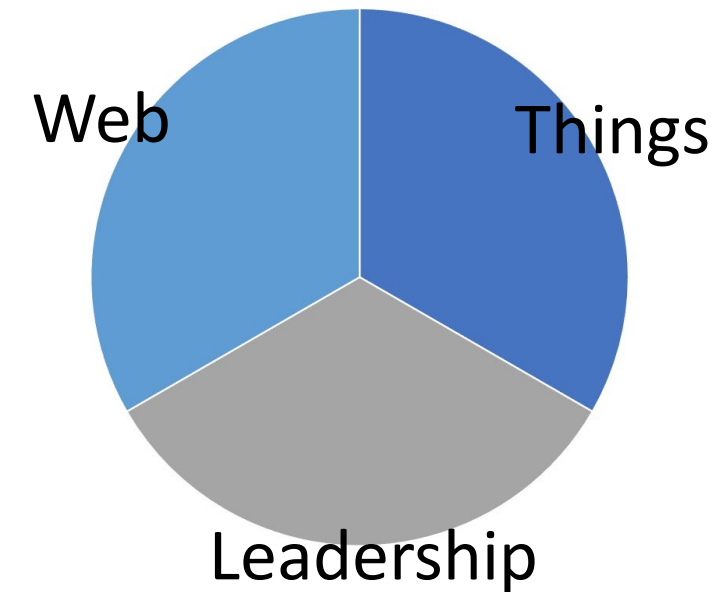
Transformation Opportunity Concept (range 5-10 years)

1. States concisely what needs to change, i.e. a perceived problem
2. Outlines an envisioned desirable state or aim
3. Defines principles that enable reaching the desired state
4. Identifies the actors / roles involved in and influenced by the transformation
5. Addresses the different building blocks of the transformation in terms of tools, systems, and services
6. Recognises key tensions within the transformation
7. Displays support for the actual potential of the opportunity

Structure

- Lectures (Mondays 09-12) and workshops (Weds 14-16)
 - Full team present
- Skills sessions (Web, Things, Leadership)
 - 1/3 of each team involved in the making
 - More on the next slide
- Team tutoring (Fridays)
 - Full team present

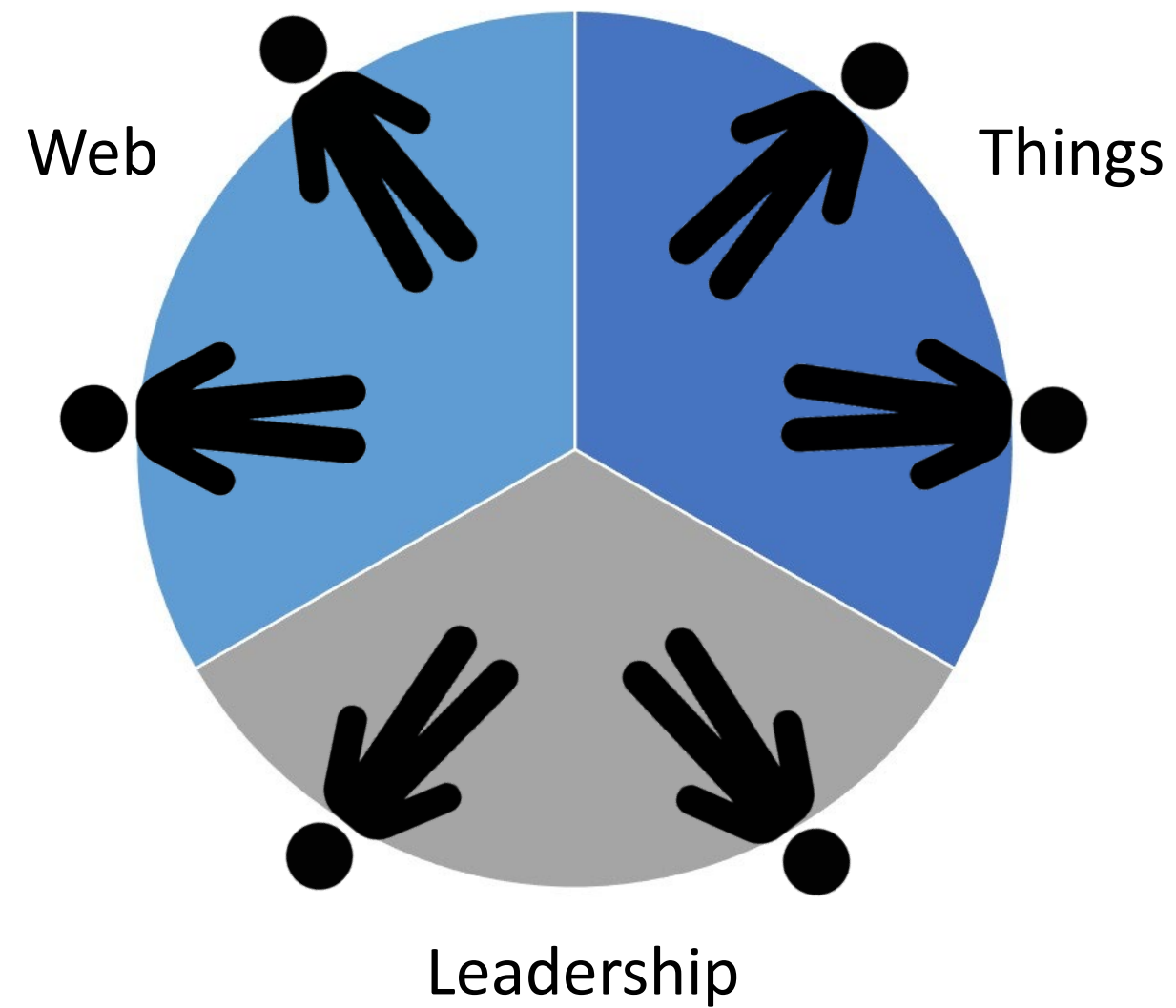
Skills sessions



- A team needs to cover all three areas:
 - Web, Things and Leadership
- Web: 3 weeks x 2 hours – basics and a mini project
- Things: 3 weeks x 2 hours – basics and a mini project
 - Includes hands-on Lab work @ TUAS, Maarintie 8 / room AS6
- Leadership: acquaintance with a topic + 15 min presentation
 - Recommended topics from course literature

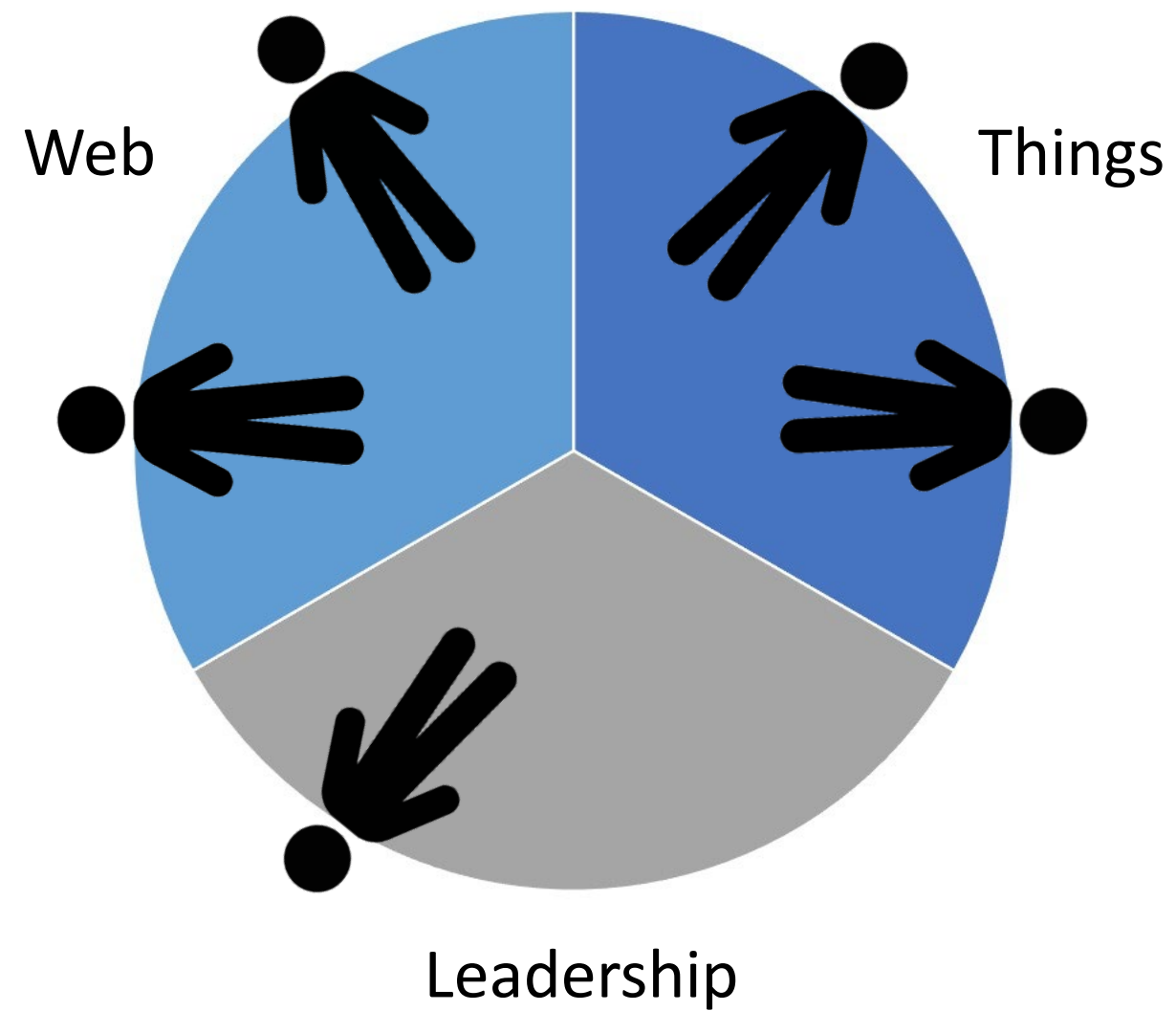
This is the idea with your team

-> different roles



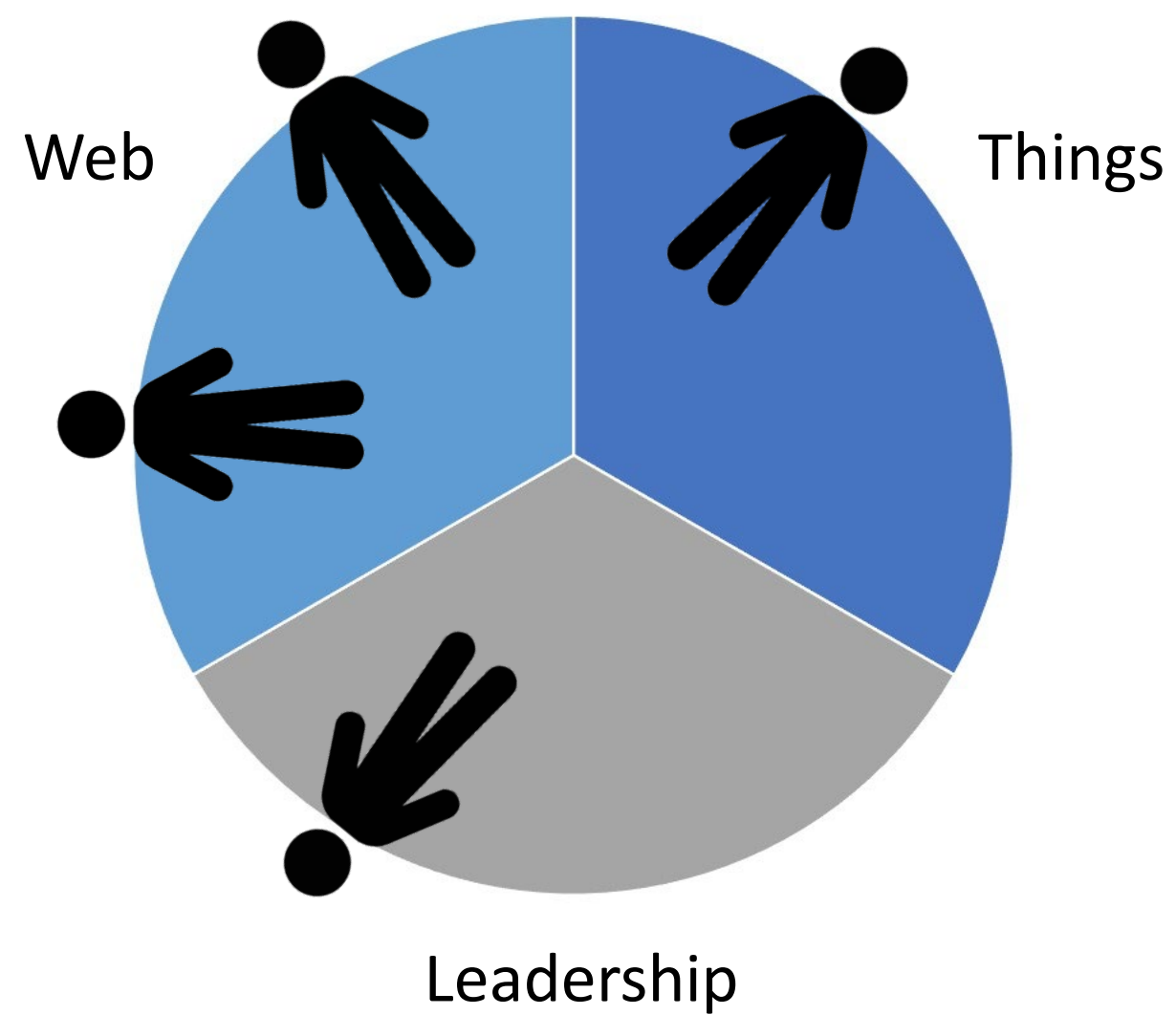
This is the idea with your team

-> different roles



This is the idea with your team

-> different roles



Evaluation

1) Individual grade (30%)

- Contribution to the project
 - self-evaluation (0-5) (50%)
 - skills sessions - active participation (0, 1, 3, 5) (50%)
- max. 3 missed sessions (=lectures/workshops) to pass (negotiable with extra tasks)

2) Group grade (70%) – filtered through peer-evaluation (0-100%)

- Completing the skills sessions + mini project (10%)
- Design Focus presentation (10%)
- Final presentation (30%)
 - Concept
 - Process
 - Demo
- Transformation Opportunity Document (50%)

How to get good karma:

- Display 'working together' attitude
- Take up challenges

Course literature

- Rowland, C., Goodman, E., Charlier, M., Light, A., & Lui, A. (2015). Designing connected products: UX for the consumer Internet of things (First edition). Sebastopol: O'Reilly.
- Kimura, A. H., & Kinchy, A. J. (2019). Science by the people: Participation, power, and the politics of environmental knowledge. Rutgers University Press.

Literature-based Presentation slots (1 / team)

- Monday 2.11.
 - 10:15-10:30 + 10 min discussion (Team ?)
 - 10:40-10:55 + 10 min discussion (Team ?)
 - 11:05-11:20 + 10 min discussion (Team ?)
 - 11:30-11:45 + 10 min discussion (Team ?)

Reserve your slot in MyCourses

Literature-based Presentations

Post on this forum your team's choice of presentation time slot and topic. The presentations need to address different topics/chapters.

[Add a new discussion topic](#)

Discussion	Started by	Last post (Descending)
☆ Example: Presentation 2.11. team 1	Salu Ylirisku 26 Oct 2020	Salu Ylirisku 26 Oct 2020

Literature-based Presentation slots

- Monday 9.11.
 - 10:15-10:30 + 10 min discussion (Team ?)
 - 10:40-10:55 + 10 min discussion (Team ?)
 - 11:05-11:20 + 10 min discussion (Team ?)
 - 11:30-11:45 + 10 min discussion (Team ?)

Literature-based Presentation slots

- Monday 23.11.
 - 09:15-09:30 + 10 min discussion (Team ?)
 - 09:40-10:55 + 10 min discussion (Team ?)

How to present?

- Be selective, do not try to cover everything
- What do you think is most important point in the chapter?
 - How is this point argued?
 - Do you think this is an important point to argue for? Why?
- Is there something that surprises you? Or that you disagree with?

Deliverables

- Literature-based Reflection Presentations (as we go on Mondays)
- Working Mini Project (a simple Weather IoT App by 13.11.)
- Team's Focus Presentation (on 16.11.)
 - Stakeholders, topic, overall intent
- Final Presentation (on 2.12. 09-14)
- Transformation Opportunity Document (by 11.12.)

Transformation Opportunity Document (~20 pages)

- A document inspired by Concept Design documents and the MyData declaration
- It covers:
 1. Opportunity Description, ~ 2 pages
 - What needs to change, what is the aim
 2. Concept Principles, ~1 page
 - How choices are made
 3. Actors and Roles, ~2-3 pages
 4. Building Blocks of Change, ~3-5 pages
 - Tools, Systems, Services
 5. Tensions, ~2 pages
 6. Background Research, 5-8 pages
 - What was studied, whom involved, what insights gained
 7. How to share, e.g. can show to next NEPPI, license CC-BY
- Template will be made available on MyCourses

This Friday's Tutoring Times

- 09:00-09:20 Team 7
- 09:30-09:50 Team 2
- 10:00-10:20 Global Plan International
- 10:30-10:50 Team 5
- 12:00-12:20 Team 1
- 12:30-12:50 Team 4
- 13:00-13:20 Global / IBM
- 13:30-13:50 Team 6
- 14:00-14:20 Team 3

Thanks!