

Workshop I

Future of Learning

Salu Ylirisku

15.11.2021

Schedule

09-> coffee available

- .. Introduction

- .. Teams get their Miro board

- .. Sharing experiences of hybrid / remote learning

- .. Solutions in the making (hybrid experiments)

- .. IoT – and what resources you have

- Lunch

- .. Choosing your user – spending time on the data

- .. Envisioning learning goals (what is the ‘learning’ for your user)

- .. Envisioning scenes – problems-solutions

14:00 – 14:30 Meeting the NEXPO’21 crew – Future of Learning

- .. Sketching alternatives (any favourite techniques)

Learning Goals

1. Co-defining requirements based on an open-ended design challenge
2. Developing a prototyping mind-set
3. Understand aspects that influence the development of a good product (focus on technology and user experience)

Overview of the process

- **Week 1: Concept framing**
 - Generating ideas, iterating, and focusing
- **Week 2: Outlining key design requirements**
 - Elaboration and Research
- **Week 3: Validation of key design requirements**
 - Articulating testable sketches/mockups
- **Week 4: Making it shine**
 - Finalising an appearance - NEXPO'21

Getting your Miro board

- Select the project manager of your team's project
 - Acts as the contact point to your team
 - Can be the same person as the NEXPO'21 team member
- The project manager sends Salu an e-mail (salu.ylirisku@aalto.fi)
 - Requesting access to their board
 - Remember to mention your team's ID number

Teams

1. Utshav Bhattarai, Felix Gugler, Nikolas Kristovic, Lara Render, Titta Kanerva
2. Emmi Laine, Sofia Nissilä, Antti-Juho Nieminen, Marius Augustin
3. Milo Sillanpää, Arla Aalto, Aaro Vasama, Sofia Wasastjerna
4. Vilma Torkkeli, Antti-Mikael Kaljunen, Lucas Wasama, Laura Suomalainen
5. Klara Norri, Balder Eklöf Eira, Matias Rinne, Hieu Le
6. Thao Dang, Emilia Tognetty, Joel Oksanen, Milla Rusanen
7. Maria Uusitalo, Hazal Ustabas, Oula Airiola, Samvidh Ramanathan
8. Ia Ahl, Veera Kallio, Yujie Shen, Assi Kivistö, Matias Seppälä
9. Oskar Sasse, Mats Silen, Stanislav Malevich, Ulrika Ura
10. Jasmin Elkordy, Cedric Ehrnroot, Pauliina Alanen, Nicole Hussmann

Experiences of Hybrid / Remote

- Make observations into your team's Miro

Your own experiences

- Discuss in teams 15 minutes
- What courses did you participate in?
 - Big, small, projects, teamwork, lectures, homework?
- What was intended to be learned?
- What do you see as the key problems?

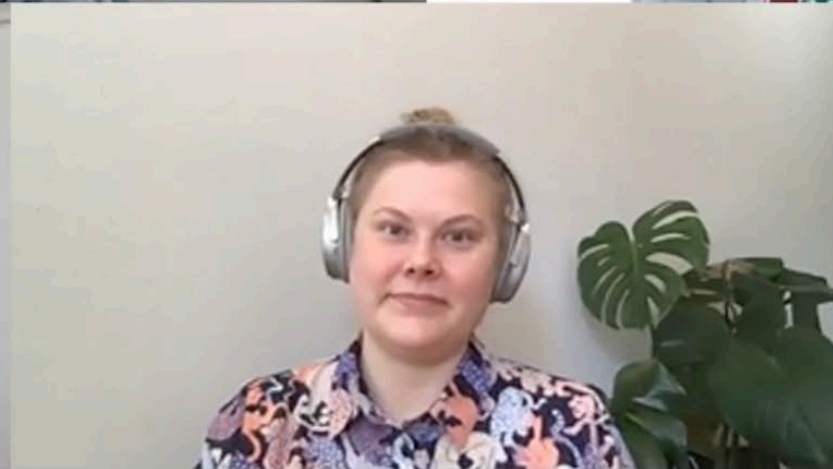
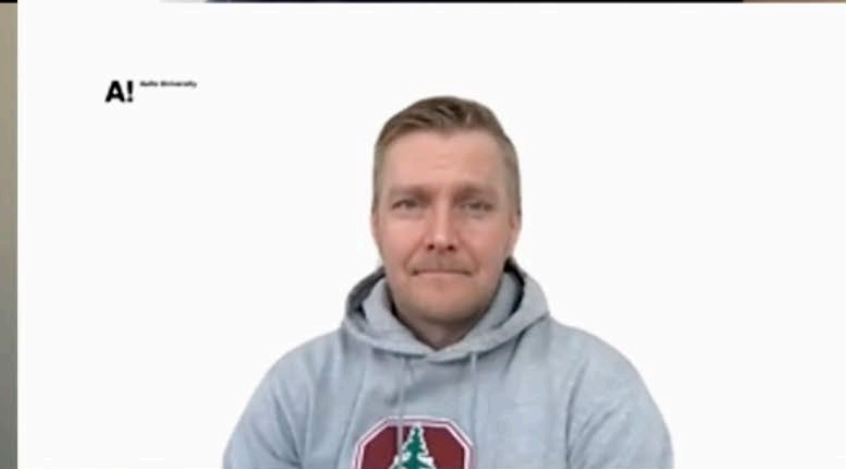
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Atanassov**

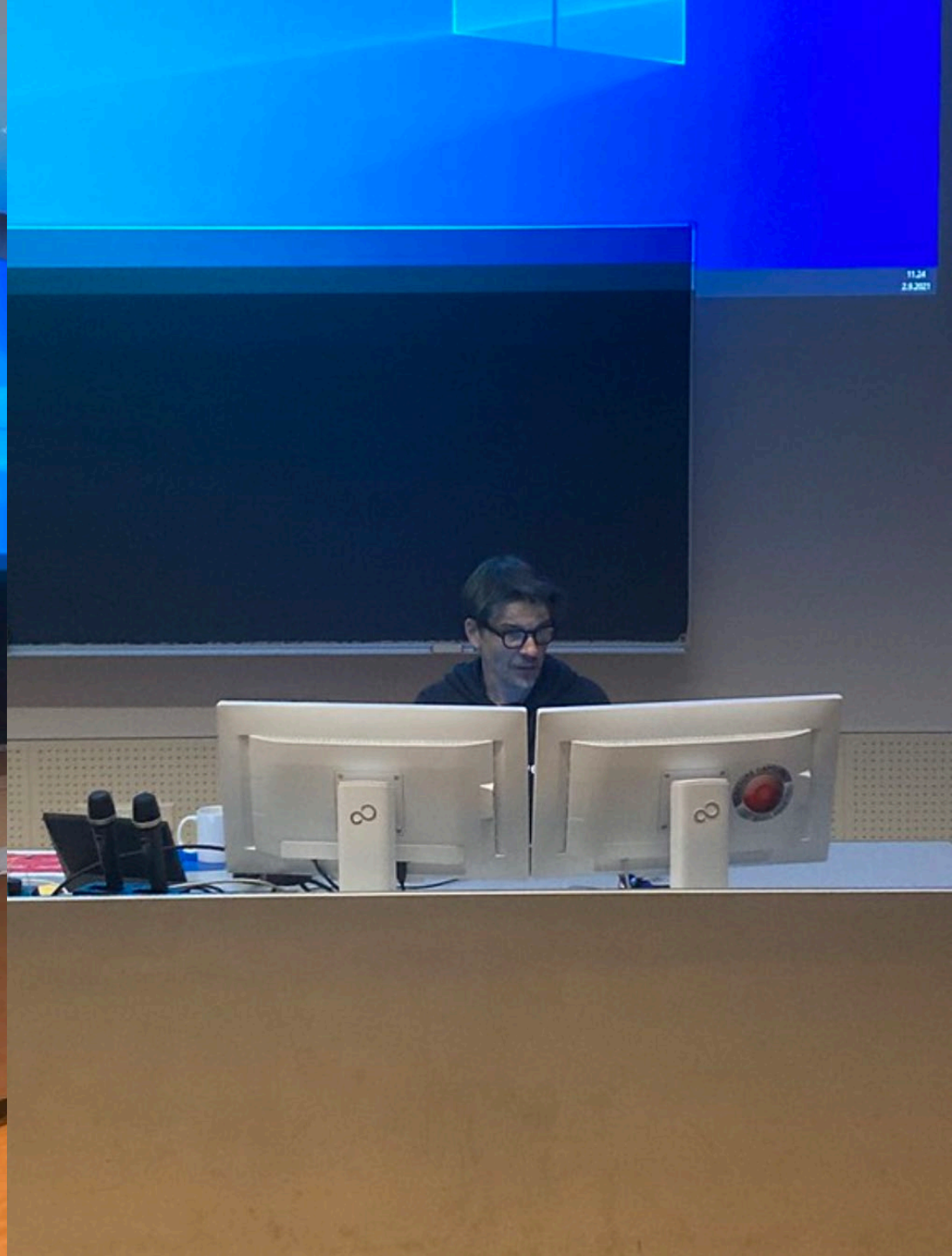
Salu's experiences – Three challenges

- Hear well
- See well
- Be well

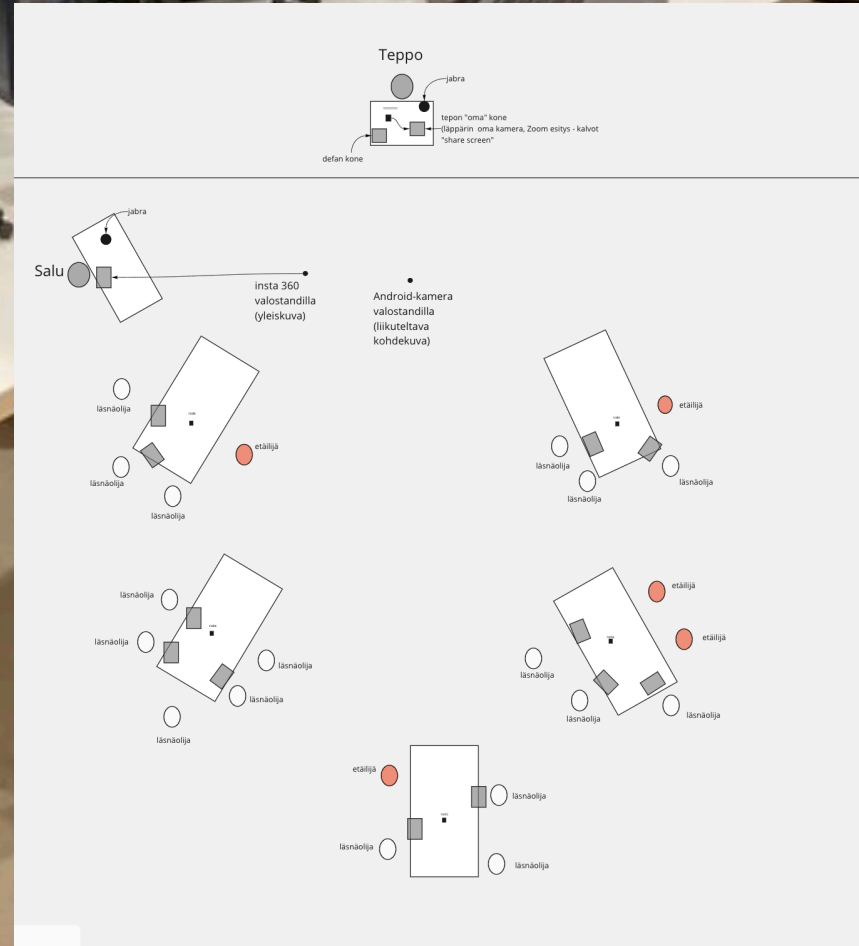
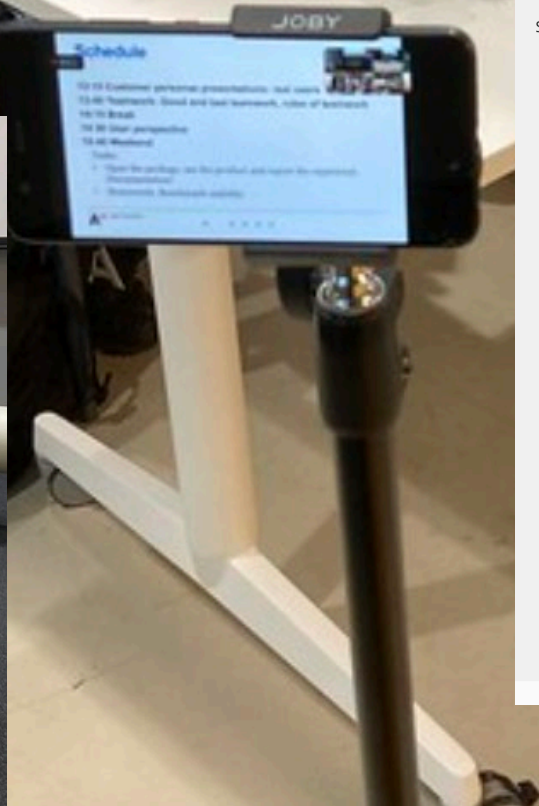
Hear well

- Experiments with Ville Eloranta
 - Development of hybrid teaching setups
 - Wireless mic setup









Hybrid can be DARN tricky! But..



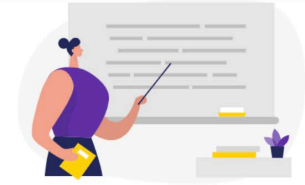
TRRS

TRS

Simplest solutions in ELECdigi

Hybrid Teaching

Tools and equipment for running successful hybrid sessions.



Make it simple

- 1) Take a Jabra Speak (see below) and connect it to a mobile phone with Bluetooth.
- 2) Get a camera stand for the mobile phone and place it into the classroom.
- 3) Join your Zoom/Teams call from the phone.

This gets 99% of your Hybrid needs covered (although there is the risk that you forget about the existence of the remote participants).

ELEC Takeout lends out the following wireless microphones:

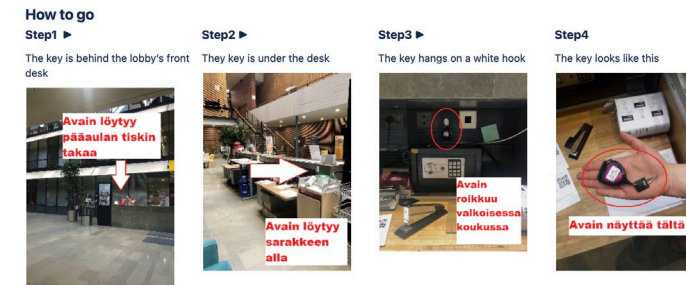


- Jabra Speak (a Bluetooth microphone and speaker)
- Rode Wireless GO (a wireless mic that can be easily attached to a shirt)

With a wireless microphone you do not have to worry about the online participants not hearing you well. The range of the wireless connection of Rode Wireless Go is around 70 meters. We also provide a setup that has up to 6 parallel wireless microphones to cover a larger space.

Equipment – ELEC TakeOut

<https://takeout.aalto.fi>



Launched on the 1st of September 2021 (at TUAS, Maarintie 8)

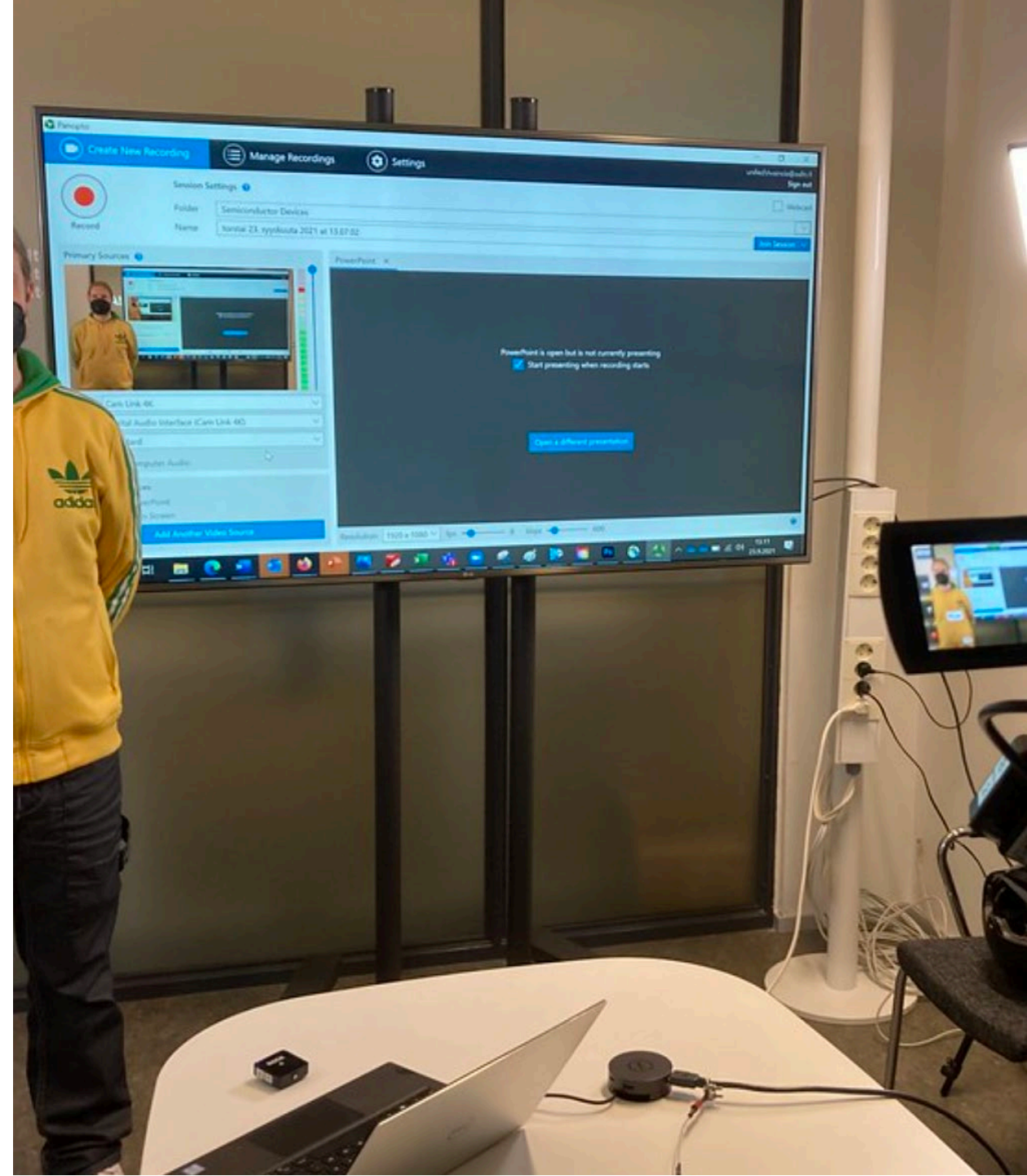


Aalto University
School of Electrical
Engineering

Pop-up studio

In room 2140

Recording of lecture videos

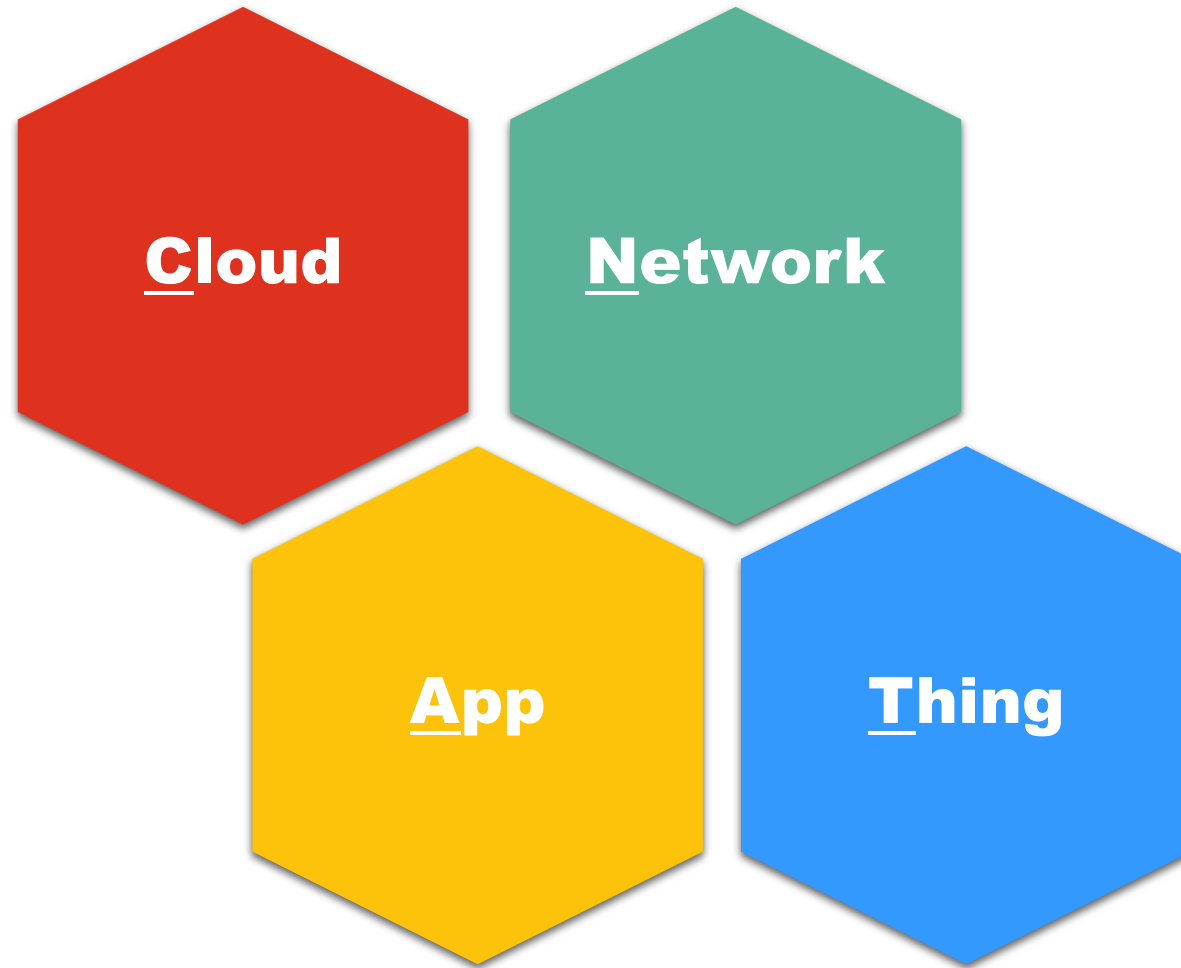


Lunch



IoT

Key parts of IoT system





Thing

Sensors, actuators, connection, processing

Thing - Sensors

- Buttons, switches, knobs
- Motion (acceleration, gyro, IR)
- Proximity
- Magnet
- Bending
- RFID
- Microphone
- Camera
- Your mobile device
- Other devices, such as tablets, joysticks, ...

Thing - actuators

- Lights
 - LEDs
- Sounds
 - Speakers
- Motion
 - Buzzers
 - Servos
 - Steppers
- Your device (mobile / desktop)

Thing - connection

- Wireless
 - WiFi
 - Bluetooth
- Wired
 - USB

Thing - Processing

- Simple algorithms possible
 - Focus on the triggering of messages
 - e.g., if this button is pushed then send this message to server
- Of course, on a computer you can have more complex processing
 - If smile is detected, then...
 - If a correct X is detected, then...

The App


- Graphical user interface
 - Webflow (<https://webflow.com/>)
 - Animations: (<https://rive.app/>)
- Prototyping
 - Figma (Interaction design, GUI)

Cloud

- Node-RED (Connecting things with APIs) – our ‘cloud’
- Also a Linux server possible

Data / Experiences

- https://miro.com/app/board/o9J_lJsHnk=/



Anna
Teaching Assistant
3rd year student

Age: 23
Experience: 1 month
DOB: [redacted]

Roles

- Tech support for course
- MyCourses support
- Communication between students and the teacher
- Role of encouragement for students to engage in the course (active questions, feedback, etc.)

Equipment

- Laptop
- Wireless headphones

What I want to handle technical issues to support teachers more efficiently

Bio

Anna is studying Nanomechanics for her bachelor's degree at Aarhus University in Denmark. She is a physics major who really got interested in nanoscale stuffs to course long ago. Thanks to a recommendation from a teacher, she begins to support a course in nanomechanics. She has experience as a student and is unfamiliar with the use of MyCourses. However, she is fairly used to the use of Google. She gets nervous about speaking in front of many students, most of them 5'9 inches.

Scenario

Before the course

Anna receives general instructions to support her teacher in managing the course. She will discuss her role in a deeper detail with the teacher and other assistants. She also contacts the editor as a bridge between the teacher and students. She begins practicing using the necessary platform and communicating with other assistants to work together. Anna helps the teacher with technical and interactive matters in the recorded lessons as well as course material production/revision, exams, questions/clarification the course starts. But she makes materials by value of them, so she didn't get any help and guidance.

During the course (week 1 - 6)

Anna facilitates the teaching lessons with the teacher supporting for the usage of digital tools. She also responds students' questions outside of the lecture. At the meantime, she handles the course management from the students for the course.

1. Teacher: Anna helps for some materials to better understand the course

She takes MyCourses to deliver course materials, download and edit documents as well as to communicate with students. She just meets with the students outside of the MyCourses.

2. Teacher: Anna helps for efficient ways to handle MyCourses.

She delivers exam questions and track the submission MyCourses.

After the course (week 7)

Anna supports students with some grading and will collect feedback. She sends that grades to students through MyCourses.

Problems and needs

Problems	1. Teacher: Anna helps for some materials to better understand the course	2. Teacher: Anna helps for efficient ways to handle MyCourses.	3. Teacher: Anna helps for some grading and will collect feedback. She sends that grades to students through MyCourses.	4. Teacher: Anna helps for some grading and will collect feedback. She sends that grades to students through MyCourses.	5. Teacher: Anna helps for some grading and will collect feedback. She sends that grades to students through MyCourses.
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Juho

Junior Lecturer

“ I AM PASSIONATE ABOUT IMPROVEMENT OF MY TEACHING AND COURSE WITH NEW METHODS.”

Age 31 years
Experience 1 year
Teaching subjects Business finance course
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Experience 1 year
Teaching subjects Business finance course

Roles

- Handles a course from start to end
- Plans a digitalized online course
- Build a firm pedagogical philosophy

Equipment

- Desktop
- Laptop
- Multi monitors
- Audio setup
- Microphone
- Wireless headphones
- Multiple cameras
- Green screen
- Tablet and pen

Problems and needs

Low level of learning among students every time when teaching

Need to learn pedagogical approach, how to teach and how to use technology

Ignorance about how to use technology

Need to learn pedagogical approach

pedagogical approach using technology

Need to learn pedagogical approach

Bio

Juho has held the role of university lecturer for a year now. He required his PhD in order to become a lecturer and was engaged in research and teaching from his bachelor's studies. He has worked as a research assistant and as a PhD teaching in the role of a lecturer twice. Juho is very progressive and flexible. He also has some experience in handling the new technologies. Juho is passionate about learning new methods in digitality in his pedagogy. He is still building his own pedagogical philosophy.

Scenario

Before the course

Juho carefully plans to give the upcoming course from scratch. Based on his experience as a teaching assistant, he creates course materials and records presentations.

During the course

Juho finds an opportunity for the course. He allows his teaching method to be recognized by students, but still believes himself being satisfied and enjoying what he has planned.

After the course

Juho gives grades to students based on their answers. He receives feedback from students and reviews them for upcoming courses modifying general lessons. He plans next courses to make up for the weak points that students pointed out in his presentation.

Equipment

- Desktop
- Laptop
- Multi monitors
- Audio setup
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Problems and needs

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Need to learn pedagogical approach

pedagogical approach using technology

Need to learn pedagogical approach

[illegible][illegible]

Choosing Your User

- Student
- Teaching Assistant
- Junior Lecturer
- Senior Lecturer
- Professor

NEXPO'21 Meeting – 14:00-14:30

- What needs to be planned?
 - Define the scope – basic stands, or grand stuff?
 - Invitations – schools, communications, partners, A!Ole?
 - Hybrid participation? Event website? How to best exhibit the design concepts (Dubai 2020)?
- How do you break down the work – and groups?

NEXPO'21 Minimum Requirements

- Each team needs to have their own stand
- Theme of 'Future of Learning' needs to be present
- Visitors' and exhibitors' feedback gathering

NEXPO'21 Meeting – 14:00-14:30

- Engaging the audience
 - Users
 - Others (investors / stakeholders)
- Common theme – visual
- Entertaining?
- Miro board for designing the event?

Budget 500 €

Friday

- Morning – working on the ideas, quick feedback
- Focusing on one, quick iteration and presentation

Key

- .. Envisioning learning goals (what is the 'learning' for your user)
- .. Envisioning scenes – problems-solutions

Focusing on Scenes

- What are relevant scenes?
 - Scene = situation, in a particular environment, ...
 - Who is doing what
 - What