

The Future of Learning

Project brief

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15.11.2021

We are on a technological leap – What to expected when we land?

- In 2020 we were forced to move education online
- Now we are somewhat back onsite
- But things have changed
 - This lecture, for example,...
 - And things are getting beyond..

Getting beyond, some examples

- <https://www.gather.town/>
- <https://spatial.io/>
- <https://hello.vrchat.com/>
- <https://magmastudio.io/>
- <https://fremtidensuddannelser.dk/en>


Application Programming Interfaces: APIs

- IoT Applications are connected
- Online services have typically interfaces for developers of apps
 - See e.g., <https://developers.zoom.us/>
 - Moodle (MyCourses) has also API

Getting beyond the screen

- IoT devices are physical things with connectivity
- They may have sensors and actuators
- Data can be captured, passed on, and perceptualised
- Things can be wearable, carryable, motorised, or stationary
 - They may be at home, public space, or at work place

“ I WANT TO HANDLE TECHNICAL ISSUES TO SUPPORT TEACHERS MORE EFFICIENTLY. ”



Anna
Teaching Assistant
3rd year student

Age 23
Experience 1 month
ddf -

Bio
Anna is studying Nanoengineering for her bachelor's degree at Aalto University. Anna is a 3rd year student who wants to gain experience as well as funds to cover living expenses. Thanks to a recommendation from a teacher, she begins to support a course the teacher organizes. She lacks experience as an assistant and is unfamiliar with the use of MyCourses. However, she is fairly used to handling digital tools. She gets nervous about speaking in front of many students, even if it's online.

Scenario
Before the course
Anna receives general instructions to support her teacher in managing the course. She will discuss her role in deeper detail with the teacher and other assistants. Her role contains the action as a bridge between the teacher and students. She begins practicing using the necessary platforms and communicating with other assistants to work together. Anna helps the teacher with technical and interactive matters in the recorded lecture as well as course material production (exercise, exam, quizzes etc) before the course starts. But she makes materials by rule of thumb, as she didn't get any help and guidance.
! Trigger: Anna looks for practical guidance for course materials.
During the course (week 1 - 6)
Anna facilitates live teaching sections with the teacher, supporting for the usage of digital tools. She also responds students' questions outside of the lecture. In the meantime, she observes low engagement from students during the course.
! Trigger: Anna looks for some methods to better interact with students.
She uses MyCourses to deliver course resources, exercises and announcement as well as to communicate with students. She just meets with the tedious repetition of things on MyCourses.
! Trigger: Anna looks for efficient ways to handle MyCourses.
She delivers exam questions and track the submission status.
After the course (week 7)
Anna might help with some grading and will collect feedback. She sends final grades to students through MyCourses.

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

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



Juho
Junior Lecturer
+ Assistant with more duties

Age 31
Experience 1 year
Teaching subject Bachelor-level mass course

Bio
Juho has held the role of university lecturer for a year now. He received his PhD in computational engineering from Aalto University and subsequently started to teach in ELEC. He has some experience as an assistant from his time as a PhD student, but being a lecturer gave him a stronger sense of responsibility. Teaching in the role of a lecturer excites Juho. He is very progressive and energetic. He also has some experience in handling the latest technologies. Juho is passionate about learning new methods to apply into his pedagogy. He is still building his own pedagogical philosophy.

Scenario
Before the course
Juho carefully starts to plan his upcoming course from scratch. Based on his experiences as a teaching assistant, he creates course materials and records pre-videos.
! Trigger: Juho wants school level of teaching guidelines.
He is passionate to preparing his course and tries to experiment various methods and tools.
! Trigger: Juho wants to broaden his knowledge about pedagogy.
During the course (week 1 - 6)
Juho holds an orientation for the course. He utilizes ice-breaking method for students' interaction, but still witnesses moments being awkward and engaging less than he expected.
! Trigger: Juho wants to explore ways to encourage students to engage in
He continuously operates his course trying to communicate with students and getting feedback both formally and informally. At the end of the course, he gives out the exams to students.
After the course (week 7)
Juho gives grades to students based on their answers. He receives feedback from students and reviews them for upcoming courses modifying several issues. He plans next courses to make up for the weak-points that students pointed out in this course.


Roles

- Handles a course from start to end
- Plan a digitalised online course
- Build a firm pedagogical philosophy

Equipment

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

“ I'VE BEEN TEACHING MY COURSE(S) FOR MANY YEARS AND AM LOOKING TO MAKE MINOR UPDATES AND IMPROVEMENTS. ”



Sam
Senior Lecturer

Age 39
Experience 7 years
Teaching subject Bachelor and/or master's courses

Bio
Sam has been teaching multiple courses and have built own pedagogical style based on experience. Conducting research has become as important as teaching, in some cases even more important. Due to their hectic schedule and limited time, Sam needs assistants who can help them with teaching. Sam has already built the course materials, and wants to update minor issues. Sam has recently gotten interested in improvements for their courses with technical equipment. Sam wonders what equipment and tools can improve courses in an efficient way.

Scenario
Before the course
Sam goes through previous materials to prepare an upcoming course in order to learn what needs to be updated or modified. Sam also shares some tips to develop teaching and course during coffee breaks with colleagues.
! Trigger: Sam wants to know what the colleagues are working on.
Sam hires assistants who were active in the previous course and ask for their help with technical matters. Sam discusses with them on how to improve course and interact with students. Sam prepares course materials and setups as well as records lectures.
! Trigger: Sam wants to experiment with new equipment and tools.
! Trigger: Sam wants to techniques for online teaching.
During the course (week 1 - 6)
Sam hands over some interactive duties to assistants while teaching. Sam faces low engagement from students during live teaching. Sam meets this with curiosity to get to know more information and methods with digital tools.
! Trigger: Sam looks for potential interactive activities for students.
Sam hands out the exams to students and asks for the course feedback at the same time.
After the course (week 7)
Sam collects answers for the exams and gives grades for about 3 weeks. They communicate with assistants continually to track the current status and to share feedback.


Roles

- Keep balancing between teaching and research
- Deploy existing resources to improve his course by adding minor updates
- Willing to experiment new methods

Equipment

- Desktop
- Laptop
- Audio setup
- Microphone
- Wireless headphones
- Camera

“ I STRIVE TO DO THE BEST I CAN WITH A VERY LIMITED TIME FOR TEACHING. ”



Paula
Tenure Professor

Age 53
Experience 18 years
Teaching subject master level course

Bio
Paula is a university professor who has 18 years of teaching experience. She was a researcher for 14 years and turned got a tenure professorship three years ago. She has many obligations besides teaching now, getting funding, project management, supervision and administrative tasks. She uses assistants heavily in courses, and has very little time to spend on learning new digital tools, adding content online, and preparing new teaching materials. She simply does not have enough time for other priorities. After the impact of COVID-19, she just starts to find some methods to transfer his course materials into digital world.

Scenario
Before the course
Paula goes through the previous courses he built to check whether she needs to change or update. Mostly she wants to only update minor content upon the existing one. Instead, she tries to assimilate efficient digital methods for her restructured course. But, she doesn't have enough time to focus on learning new tools, and creating new contents. She records the pre-videos through Panopto but he doesn't have a high-quality of equipment. Practical exercises are considered as the hardest part to teaching.
! Trigger: Paula wants to find useful equipment and tools.
! Trigger: She doesn't have time to learn something new.
! Trigger: She feels laborious to make online exams because most questions have to be new.
She employed some assistants who help with technical and communicative matters. She trains them mainly for communication between him and students.
! Trigger: She wants to assign roles loud and clear to assistants.
During the course (week 1 - 6)
Paula starts her course, and faces some technical issues during the live stream lecture. But, assistants also were not well used to handle the problems. In addition, she founds out that students are inactive and shy to engage in.
! Trigger: She wants his assistants to help him at an appropriate time.
Her assistants are mainly in charge of communicating with students, including answering questions, delivering exams, quizzes, exercises, and so forth. In the meantime, he focuses on teaching.
After the course (week 7)
Paula evaluates with exam answers from students. It takes many time to check using digital tools. She asks students to do feedback survey through email.

Roles

- Use existing resources as much as possible
- Utilise assistants efficiently
- Stop wasting a lot of time
- Make sustainable course for long term

Equipment

- Desktop
- Laptop
- Wireless headphones
- Camera

We have collected some user data

Schedule

- Week 01 -> Concept framing
- Week 02 -> Outlining key design requirements iteratively
- Week 03 -> Validation of key design requirements
- Week 04 -> NEXPO'21

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

NEXPO Teams – Inform Salu by Wed

- NEXPO Team – One person from project each team will participate
- NEXPO will be in TUAS / Atrium – Maarintie 8
 - 10.12.2021 – 15:00-17:00
 - Total budget for the event 500 €

Meeting your team - Making Team Agreement

- Introduce yourself
- Agree on communication channel
- What are your team's rules?
 - What are desirable behaviours, what are not?
- Discuss for 10 minutes and write the rules down.

**See you at
Design Factory on
Wednesday at 09:15!**