



Aalto University
School of Science

Major in Software and Service Engineering: Orientation Week Event

Casper Lassenius

September 2nd 2020

Schedule

Time	Subject
10:15	Overview of the SSE Major, Prof. Casper Lassenius
10:30	Introduction of the new students
11:00	Software Engineering Track, Prof. Casper Lassenius, Fabian Fagerholm, Jari Vanhanen
11:15	Break
11:20	Service Design and Engineering Track, Prof. Marko Nieminen, Marjo Kauppinen, Johanna Kaipio, Mika Nieminen
11:35	Enterprise Systems Track, Kari Hiekkanen
11:50	Alumni's experiences of studying the SSE major, Henri Thor-Touch
12:00	Portfolio in SSE course info, Jari Vanhanen
12:10	Break
12:15	Free discussion with the faculty in two teams
13:00	End of event

Why Software and Service Engineering?

- The world runs on software
 - Economies
 - Societies
 - Health and well-being
- It is crucial that we know how to effectively and efficiently build systems and services based on software

Why Software and Service Engineering

- Megatrends
 - Digitalization of products and services is pervasive throughout society
 - New business models emerge that might revolutionize and/or disrupt existing businesses
 - Lots of money to be made 😊
 - The Internet of things (IoT), will have a significant impact on everything from business to life in general
 - Healthcare
 - New services
 - Artificial Intelligence and Machine learning – it is mostly software!
-



Peculiarities of the SSE major

- Problems are typically real-world design problems that show characteristics of so called wicked problems
 - Often ill-defined
 - There are many, possibly equally valuable candidate solutions
 - There are often no “perfect” or single “correct” solution
 - Different stakeholders might have conflicting opinions about the problem or solution
 - You cannot know the solution until you have developed it
 - Sometimes understanding the problem is more difficult than building the solution
- You will learn by doing as well as by reading
 - Significant amount of practical project work
 - Often with real-world customers

Software and Service Engineering: Tracks

Software
engineering

Service design
and engineering

Enterprise
systems

Courses are based on research done in close collaboration with companies.

CS-E4920 Portfolio in Software and Service Engineering



Casper Lassenius



Marjo Kauppinen



Marko Nieminen



Johanna Kaipio



Kari Hiekkanen

Objectives

- You learn how to
 - Design
 - Develop
 - Manage

... digital products and services that

 - Create value
 - Satisfy user needs and wants

... within modern organizations

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Students introduce themselves

- Where did you do your B.Sc.?
- Why did you choose SSE?

- SE
 - Autti, Juhana
 - Mäkinen, Tero
 - Puranen, Elina
 - Tsovou, Styliani
 - Verho, Kalle
 - von Bergmann, Wilhelm
 - Vuorinen, Anni
 - Xiao, Zifan
- SDE
 - Miettinen, Miro
 - Saari, Topias
 - Tengvall, Sofia
 - Winter, Jouni
- ES
 - Hurri, Antti
 - Kerttula, Ilkka
 - Maanonen, Tuomas
 - Peltonen, Mikko
 - Truong, Phuong
- ?
 - Aliev, Alisher
 - Haajanen, Petri
 - Naumanen, Iiro
 - Niemensivu, Jaakko
 - Raskhodchikov, Mikhail
 - Tallgren, Tuukka
- **...and any other students present**

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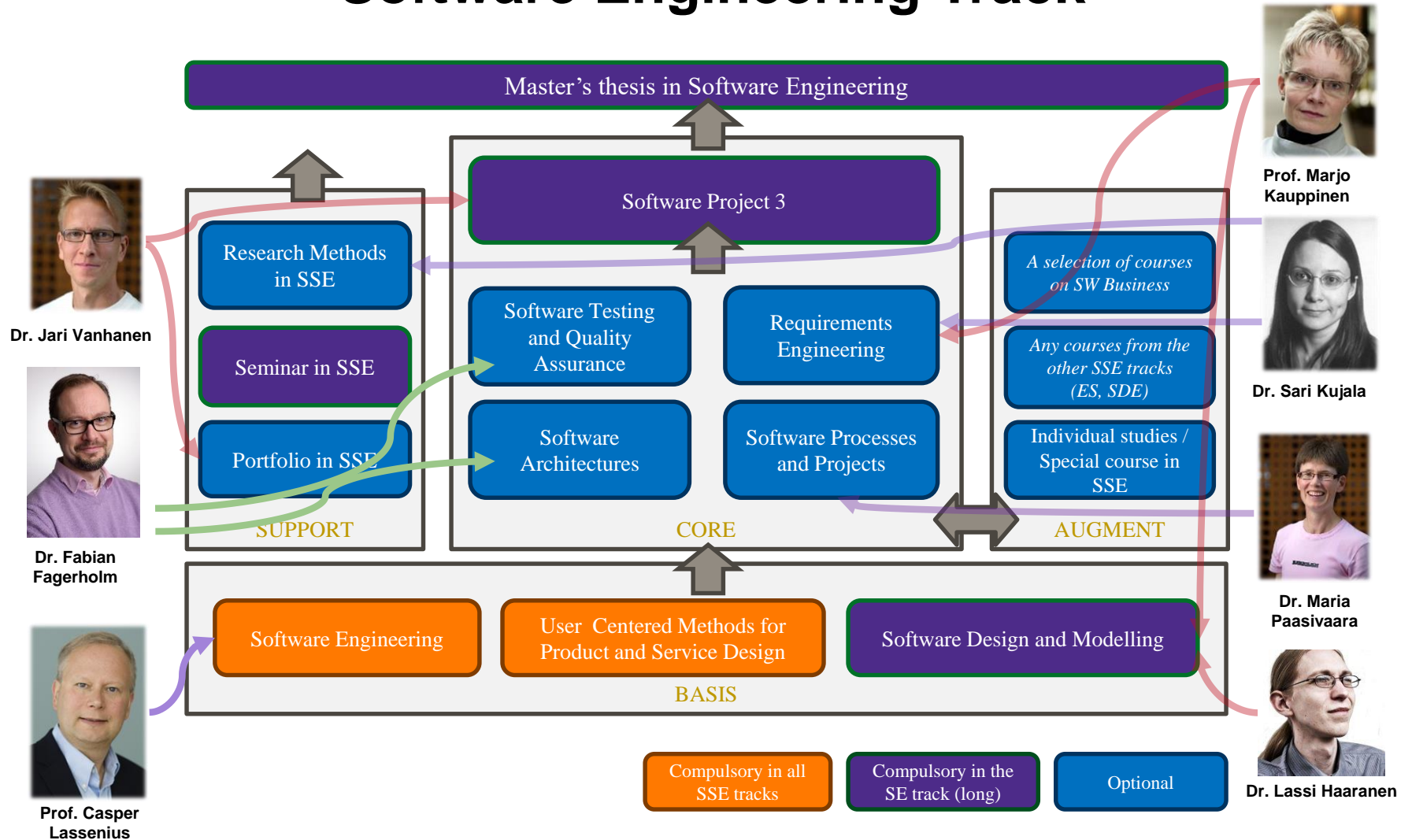
Software Engineering Track

- Focuses on understanding software development in professional contexts
 - Working in and managing teams and organizations
 - Software engineering activities and related methods
 - Requirements engineering
 - Specification and Design (architectures, low-level)
 - Implementation
 - Testing and quality assurance
 - Deployment
 - Traditional and modern approaches
 - Waterfall, Agile, Scrum, XP, Lean, Continuous SE
 - Working with real customers

Why Software Engineering

- There is a huge need for software engineering experts in industry
- Many positions, both management, and expert (e.g. architect) are well paid
- Most problems in software projects are due to problems related to SE rather than, e.g. technologies
- Gives a good basis for software entrepreneurship

Software Engineering Track



<https://into.aalto.fi/display/enccis/Software+and+Service+Engineering+%28SSE%29+2020-2022>

Outcome

- Typical SE roles
 - Software developer
 - Tester
 - Architect
 - Quality/test manager
 - Process developer
 - Process developer
 - Project manager
 - Product manager
 - Higher level manager
 - Entrepreneur
- Master's theses
 - Typically done in industry
 - Empirical, action research
 - Process improvement
 - Technology introduction
 - (Different kinds of experiments)
 - Data gathering methods
 - Interviews
 - Questionnaires
 - Product / process data
 - ...



Questions?

BREAK 5 min

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Next in this session...

- Short break
- 12:15 – 12:25 breakout rooms with 3-4 students
 - Get to know the other students
 - As a team, prepare 3 questions related to starting the SSE studies
 - Click “Ask for help” in Zoom, if you need help from Jari
- 12:25 – 13:00 two breakout rooms with staff present
 - Ask the questions that your team prepared from the staff
 - Discuss any other topics with the staff

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Write and vote for questions to the faculty



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