TDDE46: Software Quality
Seminar 3
Theme: Software Quality Management

Objectives:

1. To understand software quality management
2. To apply a metrics program on bachelor projects
3. A presentation about a topic of interest
4. A discussion about the challenges/issues/problems, faced by TDDE46 students in coaching

Seminar preparation:

1. All students must have made logbook entries. Prepare a five-minute presentation about one of them. Make sure that each of you have a unique study. To coordinate this, we have an excel file called Presentation at Seminar3.xlsx in the course documents folder on Lisam. Enter a reference or a one-sentence description of what you will bring to the table. If someone else already entered the same material, take your second-best choice. If you have found a topic that is highly interesting for you, make a presentation about that. You don't need to stick to the theme of the seminar.

https://liuonline.sharepoint.com/:x:/r/sites/Lisam_TDDE46_2022VT_O2/CourseDocuments/Presentation%20at%20Seminar3.xlsx?d=w06fdf817c054491f914a582ac6ac2d0a&csf=1&web=1&e=574FFG

2. Group 4 makes a little longer power-point presentation on an interesting topic. Each topic should cover 3-4 peer-reviewed papers. The topic does not need to be connected to the seminar theme. The requirements on presentation techniques and critical discussion are high.

During the seminar:

10:15-10:35 (group) Individual presentation of your logbook entry within your own group focusing on:

1. What are the main findings from your study?
2. What problems, challenges, advantages, solutions, etc. have been shown in the study?
3. Mention two things you learned? Take notes about this!

10:35-11:00 (cross-group) Discussion & Brainstorm

In the new constellations, present things learned in your homegroup. Discuss one or several of the following:

1. Do the result from the presentations trigger further topics that would be interesting

to study? What would you like to know more about?
2. Can the outcome of the presentations be used in the coaching project?
3. What might be typical processes of the bachelor projects?
4. How can these be measured and improved with reasonable resources?

11:00-11:15 Break

11:15-11:35 (all) Presentation of a chosen topic by a group Try to answer the following questions:

1) Why does a selected topic require attention from researchers and practitioners?
2) Does the problem/issue/challenge relate to your interests?
3) What is a suitable method, presented in paper or in your opinion, to address the problem/challenge?
4) What solutions are presented in paper or in your opinion, to address the problem/challenge?
5) How can we use our knowledge from this presentation/reading towards improving the BS projects? (Important)
6) How can we use our knowledge from this presentation/reading towards improving our methods/ways for helping BS students? (Important)

11:35-12:00 (all) Discussion about plans for the bachelor projects

Topics can include Coaching style, communication means, order of topics and preparations for the next workshop.

Out of ideas about what to study?

Software Quality Management (SQM) consist of

1. Quality assurance. Make sure that the desired quality goals are attained in the processes, practices, and tools used by developers. Prevention-driven on organizational level.
2. Quality planning. Setting up criteria for quality, the planned processes, and assessment methods for processes and product. Criteria-driven on project level. You already know about this in the work of the SQAP.
3. Quality control. Checking that processes are followed, adjust when needed. Assessment-driven on both project and organizational level. Practices used: software reviews, system release testing, and audits.

Interesting concepts:

Total Quality Management: A leadership style to govern an organization to produce the right quality at the right cost.

A primer:

https://asq.org/quality-resources/total-quality-management

A literature review from the TQM Magazine:

José Tarí, J. (2005), "Components of successful total quality management", *The TQM Magazine*, Vol. 17 No. 2, pp. 182-194. https://doi.org/10.1108/09544780510583245

Quality Function Deployment: A diagram for translating the voice of the customer to operationalizable requirements and plans.

A primer:

https://www.lucidchart.com/blog/qfd-house-of-quality

A more advanced example (with good references)

Lai-Kow Chan, Ming-Lu Wu, A systematic approach to quality function deployment with a full illustrative example, Omega, Volume 33, Issue 2, 2005, Pages 119-139, ISSN 0305-0483, https://doi.org/10.1016/j.omega.2004.03.010.