

## Topic Descriptions for Student Presentations

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### Context

The APM lecture is an interactive lecture. Therefore, each student gives a short presentation of about 5-10 minutes (15 max, if required due to the particular topic). Presentations also include a short essay (2-3 pages) that outlines the basic ideas and statements, and gives references for further reading. The presentation slides and the essay will be available to all students.

- Templates for the presentation and the essay will be available on the web.
- Each topic has a supervisor assigned, which assists in topic selection, refinement and preparation.
- The topic assignment is done during the first lecture (incl. the definition of a presentation schedule).
- The presentation has to be made available to the other students **two days before** the presentation.
- The essay has to be available at latest one week after the presentation and should respect the feedback and the discussions.

The presentations are part of the final grades.

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### List of available Topics

#### Topic 1: Concrete Agile Methods (5 Students)

The presentation should outline a concrete agile method, e.g., XP or Scrum. For each method the basic ideas, concepts, paradigms, and so on should be outlined. The following methods are of interest:

- eXtreme Programming (XP)
- Scrum
- Feature Driven Development
- Kanban
- Crystal

#### Topic 2: Effort and Cost Estimation (3 Students)

The presentation should outline, what methods are possible to perform effort and cost estimation in agile projects. An interesting question is: How suitable are “established” estimation approaches in agile projects? The following topics are of interest:

- Expert-based estimation
- Algorithmic estimation
- Planning poker

#### Topic 3: Agile Planning (2 Students)

The presentation should outline, which basic planning approaches are used in agile projects. Especially of interest are:

- Time boxing
- Iterative planning and its challenges

#### Topic 4: Requirements Management (4 Students)

The presentation should give information about approaches to elicit and manage requirements in agile projects. Each presentation should introduce the concept, the idea behind, and the actual implementation of the approach in practice. The following topics are of interest:

- Features (context: FDD)
- User Stories
- The Backlog
- “Classic” RE and agility

### **Topic 5: Documentation in Agile Projects (2 Students)**

There is the “fairy tale” that agile projects need no documentation. The code shall replace it. Is this true? This presentation addresses the question: How to document the code? Furthermore, is the documented code enough description of the solution? The following topics are of interest:

- Rules for documenting code (efficiency and tool support)
- Documentation beyond code – necessary or overkill?

### **Topic 6: Continuous Integration and Test (4 Students)**

CI and automated testing are two of the core ideas of agility. The presentation should outline, what the basic ideas are and how those are (practically) implemented in projects. The following topics are of interest:

- Continuous Integration (ideas, concepts, and implementation)
- Automated testing (in general)
- Unit testing (in particular)
- Test-driven Development
- Agile Modeling: Many people who come into contact with agile project management assume that agile focuses only on code. However, Scott Ambler proposed a way in which the ideas of agile software engineering are combined with a traditional, “clean” architecture-based approach. What are the basic principles behind this approach?

### **Topic 7: Agility and Contracting (2 Students)**

Agility is a mindset that “welcomes” changes. Regarding legal questions, agility is hard to implement. The presentation should show, what the basic problem behind the conflict is and what solutions could look like. The following topics are of interest:

- Basics: Contracting (in general) and what are the reasons for not being agile when negotiating contracts
- Agile contraction: ideas, approaches, strategies, and examples