EDA397 / DIT191 Agile Development Processes
Exam

Thursday, Jun 1st, 2017

Examiner

Eric Knauss +46 31 772 10 80

Contact person during exam

Magnus Ågren +46 736 47 24 91

Allowed tools / material

None except dictionary, pen/pencil, ruler, and eraser

General information

- Numbers within parentheses show the maximal points awarded for each question and the maximal number of pages that can be used.
- Please be concise in your answers and make sure that you answer the question. Observe the page limit. Text that significantly (=more than 1-3 lines) exceeds the space limit will be ignored. Consider striking an equal amount of earlier text if you want us to consider a late addition.
- Keep in mind that we always require you to motivate your answer and to demonstrate a good understanding of the subject matter. Maximal points will be given for:
    a) correctness of your answer,
    b) soundness of your argumentation,
    c) general demonstration of knowledge,
    d) the presentation of the answer is in English, readable, and clear.
- One sheet of paper may only contain parts of solutions belonging to one task.

Grading

The grades on this exam are based on your total score on the questions.

For Chalmers students:

0 – 23 points:	Fail
24 – 35 points:	3
36 – 47 points:	4
48 – 60 points:	5

For GU students:

0 – 23 points:	Fail
24 – 47 points:	G (Pass)
48 – 60 points:	VG (Pass with distinction)

Results

Exam results will be made available through Ladok.

Review

The exam review will take place in Aug-18, 13:00 – 15:00, in Room J520 (please check course page for changes!).

Task 1: Contrast different agile methods **(12p; max 2pg)**

Based on the course book, we derived a revised set of agile principles. Your task is to compare two agile methods of your choice in the following subtasks.

a) Pick and describe two organizational and two technical principles **(4p)**
b) Select one agile method and describe how the principles in a) are supported through concrete practices in that method **(4p)**
c) Select a second agile method and describe how the principles in a) are supported through concrete practices in that second method **(4p)**

Task 2: Difference in Leading Agile Teams **(12p; max 2pg)**

User Stories are a central artefact in many agile methods.

a) Describe what a *User Story* is and what information it should contain (**4p**).
b) Describe the XP practice *Planning Game*. What is the basic idea, the players in this game, and their moves? (**4p**).
c) How do *User Story* and *Planning Game* support the goal to let a team self-organize? (**4p**)

Task 3: Small and Frequent Iterations. **(12p; max 2pg)**

a) Define continuous integration, continuous delivery, continuous deployment, and DevOps. **(4p)**
b) Name and explain 2 crucial issues to make continuous integration work. (**4p**)
c) How do continuous integration and continuous delivery relate to each other? Do they support or contradict each other? How? **(4p)**

Task 4: No Single Method fits all **(12p; max 2pg)**

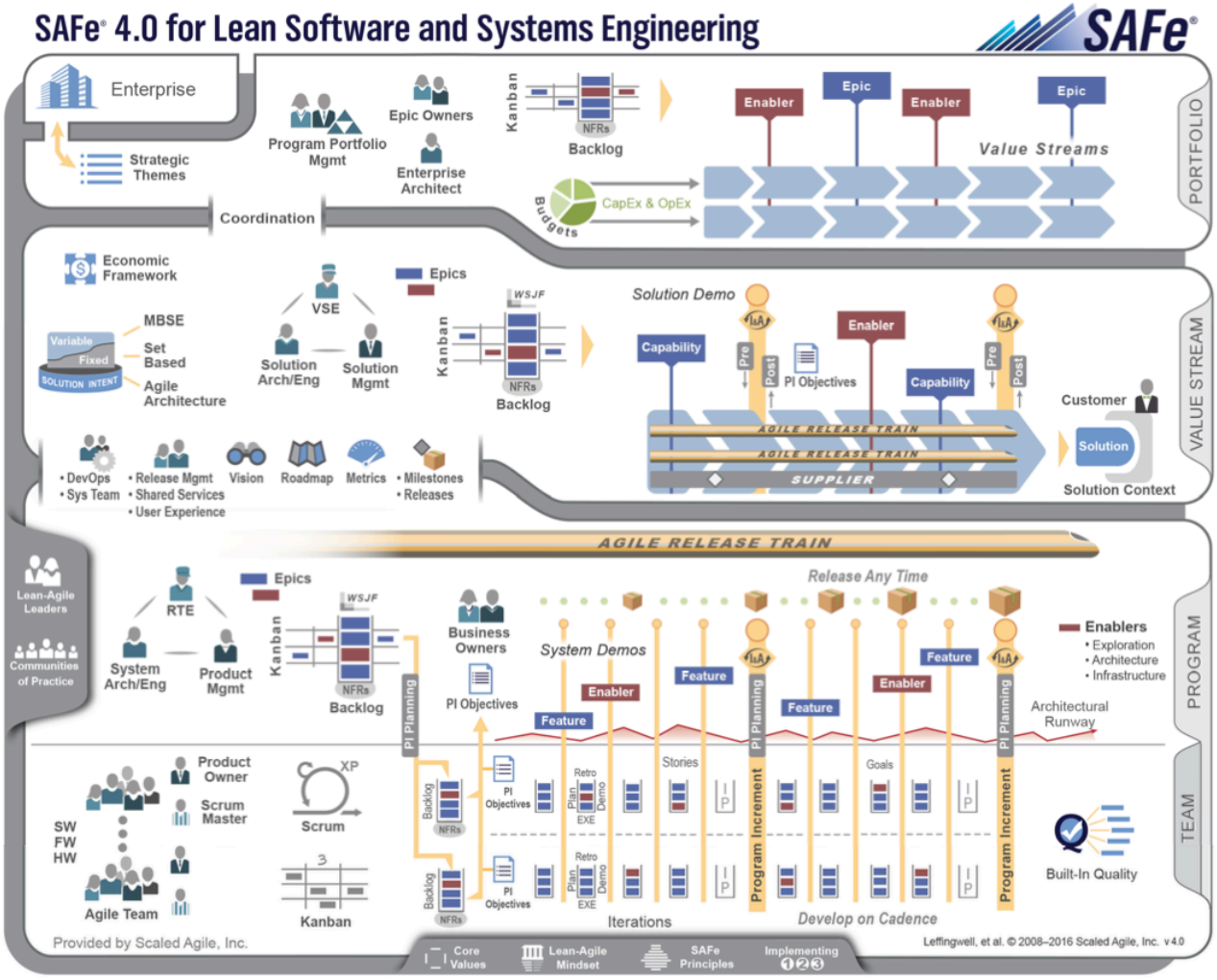
The role of architecture in agile methods is frequently disputed. There are at least two ways of creating an architecture within Scrum: (i) architecture is created based on special architecture backlog items in the Sprint backlog and (ii) architecture is defined in one or more dedicated architecture sprints before the real development starts.

a) Discuss pros and cons of each approach **(4p)**

> ***Technical debt*** *is a concept in programming that reflects the extra development work that arises when code that is easy to implement in the short run is used instead of applying the best overall solution (Wikipedia).*

b) Give examples of agile practices (2 practices from Scrum and XP each) that can lead to technical debt. (**4p**)
c) Discuss: Does agile lead to more or less technical debt than plan-driven development? (**4p**)

Task 5: Scaling agile ideas to large organizations **(12pt; max 2 pg)**



The Figure above illustrates the Scaled Agile Framework (SAFe).

a) Discuss to which extent the agile value *Individuals and interactions over processes and tools* is addressed in SAFe from the perspective of the teams? Give two examples where it is visible and two where it is not. (**4p**)
b) Discuss to which extent the agile value *Customer collaboration over contract negotiation* is addressed in SAFe? (**4p**)
c) Discuss to which extent the agile value *Responding to change over following a plan* is addressed in SAFe, e.g. in the release train? (**4p**)