

EDA397 / DIT191 Agile Development Processes

Exam

Tuesday May 24, 2011

Examiner

Docent Robert Feldt 0733-580580

Contact person during exam

Robert Feldt 0733-580580

Robert will visit the exam hall around 16:15-16:30.

Allowed tools / material

None except pen/pencil and eraser

General information

Numbers within parentheses show the maximal points awarded for each question. Maximal points can be given if:

- The answer is correct.
- The presentation of the answer is readable and clear.
- The answer is given in English.

Grading

The grades on this exam are based on your total score on the questions. For Chalmers students:

0 – 29 points: Fail
30 – 38 points: 3
39 – 47 points: 4
48 – 60 points: 5

For GU students:

0 – 29 points: Fail
30 – 47 points: G (Pass)
48 – 60 points: VG (Pass with distinction)

Students can have bonus points from the mini exams and project in the course so the final grade is based on multiple sources.

Results

Exam results will be available from the course homepage.

Review

Time and place will be announced on the course homepage.



1. Agile Manifesto in Scrum (8p)

The Agile Manifesto states the following:

Individuals and interactions over processes and tools
Working software over comprehensive documentation
Customer collaboration over contract negotiation
Responding to change over following a plan

Explain and give examples on how these four statements are applied / visible (or not) in Scrum. That is what practices or lack of practices show that the process/methodology is indeed in (or not in) the spirit of the agile manifesto. It might be that one of the four statements is out of scope and hence not applied. If this is the case, say so and explain why and how. A maximum of eight points is given. In order to get the full pot two examples of practices are needed for each statement together with an explanation on how the practices support (or does not support) the statement.

2. Crystal Methodologies (14p)

- a) What is the Crystal base technique of “methodology tuning” and what can be done to achieve it? (3p)
- b) Why does all Crystal methodologies require that “rich communication channels are used by the team” and how can it be achieved? (3p)
- c) Describe the key differences between the Crystal Clear (for smaller projects) and the Crystal Orange methodologies? (8p) In your answer you should at least address (1) what are the characteristics of the development situation that should be considered when selecting between them, (2) roles involved, (3) organization of people and (4) artifacts involved in development.

3. People, Their Faults and Biases and How Agile Tries to Overcome Them (12p)

For each of the four (4) failure modes or biases listed below describe what the failure / bias is (1p), give an example of how it can lead to negative results in a more traditional/plan-driven development methodology (1p) and then describe how an agile methodology address or avoid it or is affected by it (1p).

- a) Anchoring bias (3p)
- b) People are creatures of habit (3p)
- c) People prefer to fail conservatively (3p)
- d) Framing bias (3p)

4. Practices in Agile (16p)

For each of the following practices that are commonly used in agile development methodologies describe (1) what it is, (2) which problem in a more traditional/plan-driven development methodology it addresses, and (3) what its (3) advantages and (4) disadvantages are.

- a) Sprint backlog (4p)
- b) Test-driven development (4p)
- c) Pair programming (4p)
- d) Daily standup meeting (4p)

5. Hybrid Agile Development (10p)

In recent research we have shown that only around 15% of Swedish SW development organizations consider themselves to use a “purely Agile development methodology” while more than 50% say they use “a conscious mix between agile and traditional/plan-driven approaches”. **Discuss in detail** how such a hybrid between the two might be achieved by (1) stating particular practices from agile as well as traditional processes that can and should be combined, (2) under which circumstances your proposed hybrid should be used, what its (3) advantages and (4) disadvantages would be and how a company currently using a traditional, waterfall-like process could (5) transition to your proposed hybrid methodology.

Total: 60p