



Beijing-Dublin International College



SEMESTER I FINAL EXAMINATION - 2017/2018

School of Computer Science

COMP3005J Agile Processes

HEAD OF SCHOOL NAME: Prof. Pádraig Cunningham

MODULE COORDINATOR NAME*: Dr. Anca D. Jurcut

Time Allowed: 60 minutes

Instructions for Candidates

Answer all questions. Total marks available 60.

BJUT Student ID: _____

UCD Student ID: _____

I have read and clearly understand the Examination Rules of both Beijing University of Technology and University College Dublin. I am aware of the Punishment for Violating the Rules of Beijing University of Technology and/or University College Dublin. I hereby promise to abide by the relevant rules and regulations by not giving or receiving any help during the exam. If caught violating the rules, I accept the punishment thereof.

Honesty Pledge: _____ **(Signature)**

Instructions for Invigilators

Non-programmable calculators are permitted.
No rough-work paper is to be provided for candidates.

Obtained score

QUESTION 1

Which of the following ordered lists of activities represents XP's view on incremental design?

- ☐ First create the simplest design that could possibly work, then incrementally add to it, while improving it at every iteration.
- ☐ First create the simplest design that could possibly work, then find suitable abstractions including future extensions, and finally incrementally add to the previous design.
- ☐ First find suitable abstractions, then create a design from those abstractions, and finally incrementally add to the previous design.
- ☐ First find suitable abstractions, then create a design including future extensions, and finally incrementally add to the previous design.

[2 marks]

Obtained score

QUESTION 2

Which of the following statements about agile processes are true? Check all that apply.

- ☐ The Lean Software method was first applied in the construction industry.
- ☐ According to the XP method, documentation and code should be of primary importance.
- ☐ According to the XP method, programmers and code should be of primary importance.
- ☐ According to the Lean Software method, software projects are better off if they manage to get rid of "waste" (such as detailed documentation) and concentrate on things that get actually delivered to customers (e.g. code).

[2 marks]

Obtained score

QUESTION 3

The Lean approach has an emphasis on removing "waste". Which of the following items constitute waste according to Lean? Check all that apply.

- ☐ Doing overtime.
- ☐ Customer waiting.
- ☐ Design documents.
- ☐ Defects not caught by tests and reviews.

[2 marks]

Obtained score

QUESTION 4

Which of the following are considered customers' responsibilities in XP? Check all that apply.

- ☐ Work within the team, provide guidance and receive feedback as quickly and accurately as possible.
- ☐ Provide precise stories, enabling developers to produce comprehensive task cards and accurate estimates.
- ☐ Assign tasks to the development team.
- ☐ Analyze risk correctly, weighing stories against each other.

[2 marks]

Obtained score

QUESTION 5

Which of the following statements are consistent with what the proponents of the Agile Manifesto advocate? Check all that apply.

- ☐ We value processes and tools more than individuals and interactions.
- ☐ We value working software more than comprehensive documentation.
- ☐ We value responding to change more than following a plan.
- ☐ We value customer collaboration more than contract negotiation.

[2 marks]

Obtained score

QUESTION 6

The XP approach suggests to recognize that software is developed by people. What should the developers be offered in their working environment according to XP? Check all that apply.

- ☐ Safety.
- ☐ Belonging.
- ☐ Accomplishment.
- ☐ An accelerated career path for those who wish to work more, especially on week-ends.

[2 marks]

Obtained score

QUESTION 7

Which of the following are considered traditional manager responsibilities? Check all that apply.

- ☐ Define goals.
- ☐ Develop the infrastructure.
- ☐ Decide whether goals have been met.
- ☐ Assign tasks.

[2 marks]

Obtained score

QUESTION 8

You are the (non-technical) scrum master of an agile software development team. During the last retrospective meeting, the development team raised an issue they are having with the product owner, who is in their opinion too strict in rejecting their work results. What would you do?

- ☐ After the meeting I would privately talk to the product owner, find a solution, and propose the solution to the development team during the next daily meeting.
- ☐ During the meeting I would side with the development team and support them.
- ☐ During the meeting I would side with the product owner and support him or her.
- ☐ During the meeting I would encourage the development team and the product owner to find their own solution to the problem, making myself available in case they need my help.

[2 marks]

Obtained score

QUESTION 9

Which of the following sentences about agile methods is true? Check all that apply.

- ☐ Kent Beck, in XP, suggests that contracts for software development should fix time, cost, and quality, leaving the precise scope of the system open to negotiation. This should lead to signing a sequence of small contracts instead of just a big one.
- ☐ Crystal is a name for a set of methods using different colours to reflect the size and criticality of a software project.
- ☐ The Lean Software method was inspired by techniques first applied at Toyota and the automobile industry.
- ☐ Most of Scrum's practices are about how to manage a project.

[2 marks]

Obtained score

QUESTION 10

What it is meant in your Agile course when criticizing the tenth principle ("Simplicity, the art of maximizing the amount of work not done, is essential")?

- ☐ It is meant that simplicity should not be a goal, because software systems are complex by nature.
- ☐ It is meant that simplicity is important, but not essential.
- ☐ It is meant that simplicity should be attained by minimizing the amount of work done instead.
- ☐ It is meant that simplicity comes at a cost, and usually requires more work, rather than less, to reduce complexity.

[2 marks]

Obtained score

QUESTION 11

Which Scrum role is responsible for accepting or rejecting the result of an iteration in a project?

- ☐ Product manager
- ☐ Product owner
- ☐ Scrum Master
- ☐ Requirements master

[2 marks]

Obtained score

QUESTION 12

Which of the following is not an Agile value?

- ☐ Pair programming.
- ☐ New, reduced role for the manager.
- ☐ Focus on quality, achieved through testing.
- ☐ No "Big Upfront" steps.

[2 marks]

Obtained score

QUESTION 13

One of the way to measure complexity of user stories is to use story points. Assume that during sprints 1 to 5 the team delivered 7, 7, 6, 8, 7 story points respectively. What's the average velocity of the team?

- ☐ 35
- ☐ 6
- ☐ 8
- ☐ 7

[2 marks]

Obtained score

QUESTION 14

Which of the following tasks are typically assigned to an embedded customer in an XP project? Check all that apply.

- ☐ Help developers to write tests.
- ☐ Assign task to the team of developers.
- ☐ Organize a daily meeting.
- ☐ None.

[2 marks]

Obtained score

QUESTION 15

How would you characterize a user story as opposed to a use case? Check all that apply.

- ☐ They are approximately equivalent artifacts.
- ☐ A user story is typically more complex than a use case.
- ☐ A user story is typically more complete and accurate than a use case.
- ☐ A user story is typically less complex than a use case.
- ☐ A user story typically does not handle exceptional cases, while a use case does.

[2 marks]

Obtained score

QUESTION 16

Which of the following characteristics are typical of the backlog artifact according to Scrum methodology? Check all that apply.

- ☐ Owned by the Scrum master.
- ☐ Contains backlog items: descriptions of all potential features, prioritized by business value.
- ☐ Owned by the Product owner.
- ☐ None.

[2 marks]

Obtained score

QUESTION 17

What is a user story according to Scrum?

- ☐ Something a user wants.
- ☐ A collection of pictures expressing the customer's needs.
- ☐ An informal chat between the customer and the developers about what the system should do.
- ☐ A specification of what does a user wants and why.

[2 marks]

Obtained score

QUESTION 18

Why does the course warn against using tests as a replacement for specifications?

- ☐ Because they are typically incomplete, lacking results for individual cases.
- ☐ Because they are written by developers, while they should be written by customers.
- ☐ Because they are too general, lacking results for individual cases.
- ☐ None of the above.

[2 marks]

Obtained score

QUESTION 19

Which of the following agile practices are flagged as "hype" in the course? Check all that apply.

- ☐ Self-organizing teams.
- ☐ Cross-functional teams.
- ☐ Iterative development.
- ☐ Dismissal of traditional manager tasks.
- ☐ Planning poker.
- ☐ Open space working arrangements.
- ☐ Pair programming.
- ☐ None of the above.

[2 marks]

Obtained score

QUESTION 20

Which of the following agile practices are identified as "good" in the course? Check all that apply.

- ☐ Tests as one of the key resources in a software project.
- ☐ Notion of velocity.
- ☐ Branching.
- ☐ Test-first development.
- ☐ Product burndown chart.

[2 marks]

Obtained score

QUESTION 21

Which of the following agile practices are identified as truly "brilliant" in the course? Check all that apply.

- ☐ No branching.
- ☐ Test-driven development.
- ☐ Short iterations.
- ☐ Continuous integration.

[2 marks]

Obtained score

QUESTION 22

In pair programming the two developers should not be of approximately the same level of competence.

- ☐ True
- ☐ False

[2 marks]

Obtained score

QUESTION 23

Which of the following sentences reflect issues with the formulation of the agile principles? Check all that apply.

- ☐ Some principles are actually practices.
- ☐ There is some redundancy when discussing software delivery.
- ☐ Software testing is discussed in just one principle.
- ☐ Some principles are actually assertions.

[2 marks]

Obtained score

QUESTION 24

Which of the following agile practices are "ugly" in the course's analysis? Check all that apply.

- ☐ Dismissal of traditional manager tasks.
- ☐ Dismissal of a priori architecture work.
- ☐ Branching.
- ☐ Test-driven development.

[2 marks]

Obtained score

QUESTION 25

Which of the following questions should a participant to a scrum of scrums meeting answer? Check all that apply.

- ☐ What will your team do before we meet again?

- ☐ Are you about to put something in another team's way?
- ☐ What did your team do since we last met?
- ☐ Is anything slowing your team down?

[2 marks]

Obtained score

QUESTION 26

What happens during a review meeting in Scrum? Check all that apply.

- ☐ The team members discuss both the completed and non-completed work with the customer.
- ☐ The team members demonstrate both the completed and non-completed work to the customer.
- ☐ The team members answer the question: "What could be improved?"
- ☐ The team members demonstrate the completed work to the customer.

[2 marks]

Obtained score

QUESTION 27

Which of the following are considered developers' responsibilities in XP and Scrum? Check all that apply.

- ☐ Implement only what is necessary.
- ☐ None.
- ☐ Estimate work for each story.
- ☐ Identify risky features and report them to the customer.

[2 marks]

Obtained score

QUESTION 28

In Scrum and some other agile approaches, as explained in the lecture, the team picks backlogged user stories one after the other as team members become available, a process which assumes that there are few or no interdependencies between user stories.

For the sake of this example, consider these four user stories:

1. As a customer, I want to talk via telephone to one of the company's salespersons when I am interested in buying one of the company's products.
2. As a customer, I want to be asked if I am satisfied with the quality of a product I have purchased from the company.
3. As a customer, I want to use my laptop to chat with the company's technical support when I have issues using one of the company's products.

4. As a salesperson, I want to be able to activate my personal voice mail at any time on my company's cell phone.

Which of the following scheduling of user story implementations is possible? Check all that apply.

- ☐ 1, 2, 3, 4
- ☐ 1, 3, 2, 4
- ☐ 4, 2, 3, 1
- ☐ 4, 3, 2, 1
- ☐ No order is possible because of mutual interdependencies between stories.

[2 marks]

Obtained score

QUESTION 29:

You are invited to visit, as an observer, a team working on a software project.

Anca, the project manager, describes to you how her team works:

"... to start with, our business representatives, together with our requirements experts, discuss with the customer what the system should do, and then write it down in the form of a requirements document.

The business representatives also agree on deadlines and prices and stipulate a contract. In our case, we will be paid every time we deliver something to the customer, e.g. documents, code, or working functionality.

The requirements document is then passed to our team of analysts which write the analysis document. The document, when ready, is passed to the design team, which creates the design document.

I then personally distribute to the development team the various tasks, consisting of the functionalities to implement. Developers also take care of deploying the code to a test server so that it can be tested before going in production.

The testers, who form a team on their own, write tests for all the functionalities that appear in the requirements document. Each test consists in a sequence of steps providing an interaction between a user and the system, and the expected result.

We are planning to be done with the requirements document in two months. After that we should be done with the analysis document in one month, and it should take another month for the design document. Therefore, after four months we will start developing code.

According with our estimates we should be done with the implementation in seven months. After another month devoted to testing and bug-fixing, we should be able to show the whole system to the customer.

I am confident we will achieve a good result, and this is both because I have teams composed by smart people, and because I value people a lot. For example, one rule we have that everybody likes and sticks to is: no overtime, for no reason. In my experience this reduces stress, makes people focus more on their normal daily working hours, and lets them have a life beyond their jobs."

Based on what Anca said, what do you conclude? Check all that apply.

- ☐ Anca describes a typical agile organization of his software project.
- ☐ Anca describes what looks like a waterfall organization of his software project.

- ☐ The customer seems to be involved throughout the whole project lifecycle.
- ☐ All the documents to be delivered act as levels of indirection between the actual requirements and the code that is supposed to implement them, increasing the likelihood of misunderstandings.
- ☐ The development team appears to be self-organized, in the sense that developers decide which tasks to pick for themselves.
- ☐ Anca's testing team seems to apply test-driven development.
- ☐ Anca's teams appear to be able to maintain a sustainable pace.
- ☐ Anca's teams run the risk of realizing late (e.g. during the implementation) that certain assumptions made in the requirements, analysis, and/or design documents are not correct, with consequent delays in the project schedule.

[4 marks]

[Total 60 marks]