

IN5140

Smart processes and agile methods in Software Engineering

Group session 5

Agenda

First hour:

- Quick progress overview
- Weekly exercises

Second hour:

- Weekly exercises

Project milestones throughout IN5140

What	Due date	% of total score
Deliverable 1 – Brochure	2nd of Oct, 23:59	passed/not passed
Deliverable 2 – Retrospectives and BPMN on project	23th of Oct, 23:59	passed/not passed
Deliverable 3 – Improved BPMN and SPI suggestions on project	13th of Nov, 23:59	passed/not passed
Project Presentations	Nov 14, 18, and 20 14:00-16:00	passed/not passed

- Submit deliverables here (PDF): <https://devilry.ifn.uio.no/>
- Feedback within 2-3 weeks

Repetition from the lecture

Repetition

- What is agile development?
- Compound and Feature teams
- Agile Practices
 - Sprint Planning
 - Stand-up meetings
 - Retrospective
 - Sprint review and demo

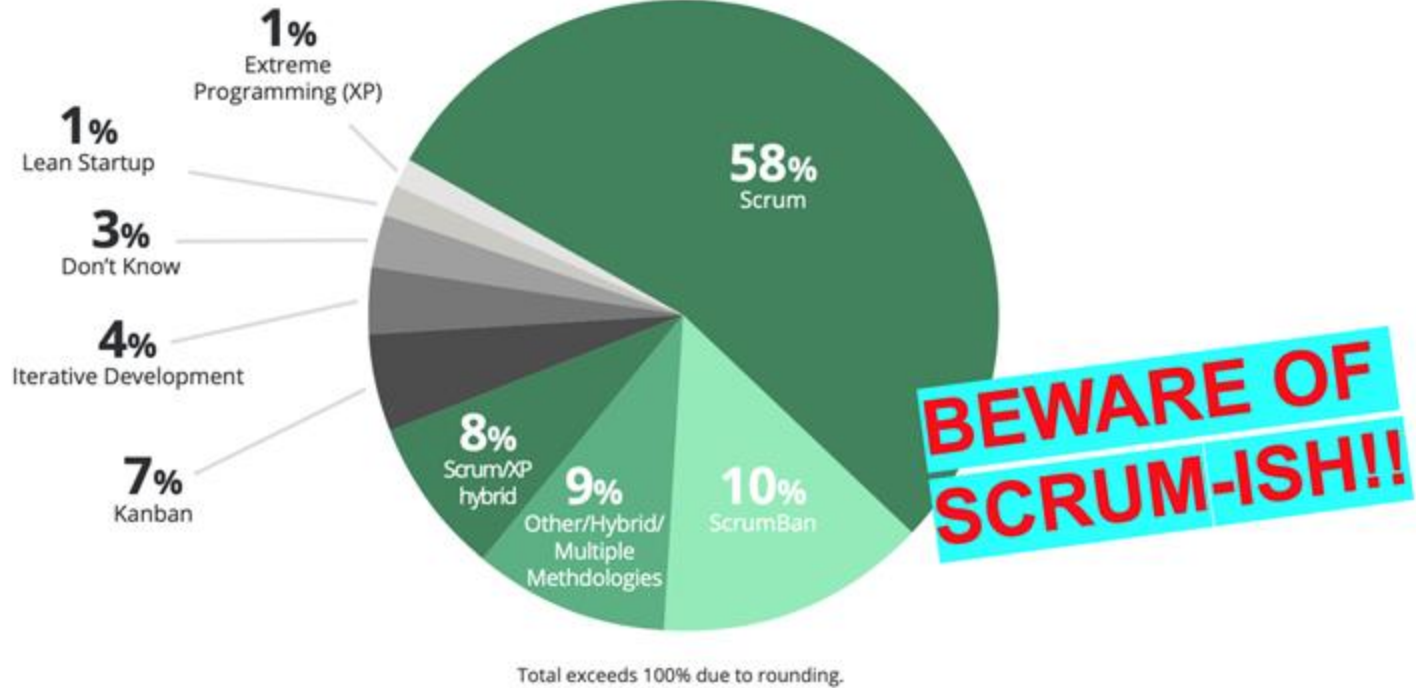
What is agile development?

«Agile» refers to a set of iterative approaches to software delivery that builds software incrementally from the start of the project, instead of trying to deliver it all at once near the end.

- An iteration is a cycle in the development
 - Popularly known as a sprint
- An increment is a subset of requirements for the system
 - For example backlog items, user stories

AGILE METHODOLOGIES USED

Scrum and related variants continue to be the most common Agile methodologies used by respondents' organizations.



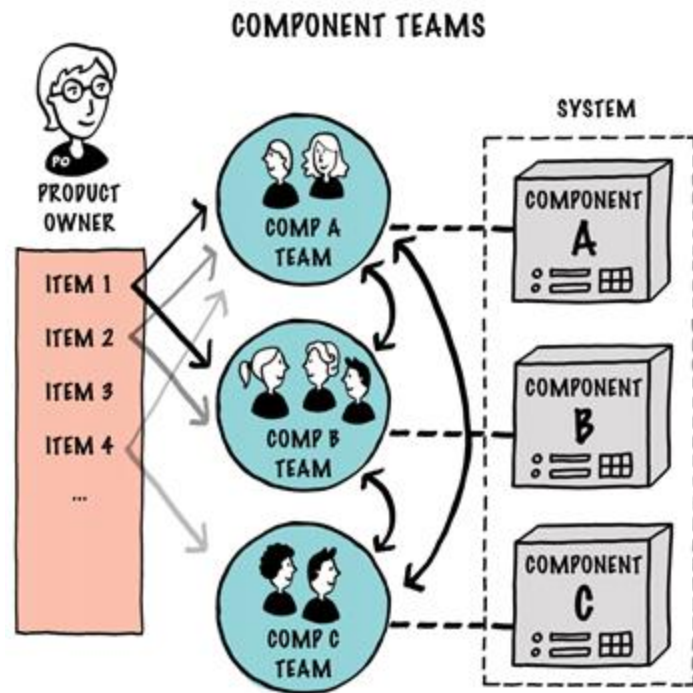
Team attributes

- Cross-functional
- Autonomous



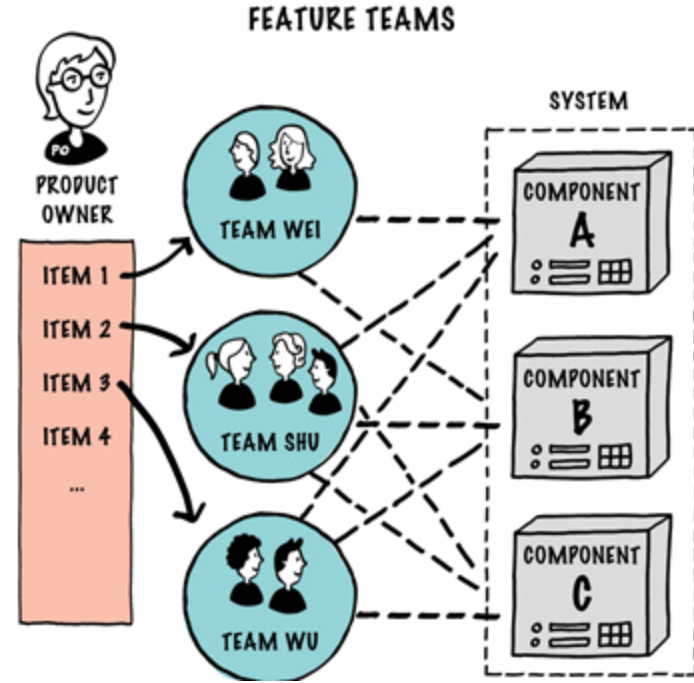
Component teams

- More traditional approach
- Clearly defined roles, individual responsibilities
- Often cross-functional
- Aggregate the needs of multiple features into the architecture for their component
- Focus on building the best possible, long-lived components



Feature Teams

- Modern way of organizing teams
- Shared responsibilities
- Cross-functional and cross-component
- Co-located
- Focus on value delivery
- Build features of the final product
- Common in agile teams (e.g. Scrum teams)



Agile practices : Sprint planning

- A planning meeting for each upcoming sprint
 - Duration: 1 hour per week of the sprint, e.g., a two-hour meeting for a two-week sprint
 - The team collectively agrees on a sprint goal
 - Team members pick preferred tasks and the team collectively plans on how to divide resources
-
- How do we know something is finished?
 - “Definition of Done”

Agile practices : Stand-up meetings

- 15 minutes status meeting every day
- All team members participate
- Facilitated by Scrum master
- All team members answer these three questions:
 - 1) What did you do yesterday?
 - 2) What will you do today?
 - 3) Are there any impediments in your way?

Agile practices : Retrospectives (Scrum)

- «At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly» **#12**
- At the end of a period of working together, typically a sprint
- Scrum: Max 3 hours

A Typical Sprint Retrospective Model

What worked well?

What could be improved?

What will we commit to doing in the next Sprint?

*Scrum Team members
make actionable
commitments*

Agile practices : Sprint Review and Demo

- Held at the end of sprints to inspect the Increment and adapt the Product Backlog if needed (i.e. put unfinished items back, add new items, etc.)
- Go through and evaluate backlog, and/or demonstrate increment
- Attendees: The team, Product Owner and invited key stakeholders
- Duration: Max four hours.
 - Too long?
 - My observations: 15-30 minutes demo keeps people interested

Weekly Exercise 5

Exercise 1

Discuss and describe the following overall lean principles:

- Satisfying the customer
- Flow
- Visualization
- Avoiding waste
- Supporting changes

Exercise 1

Satisfying the customer:

- Create value for the customer (what the customer is willing to pay for)
- Produce what the customer **actually** want
- Produce high quality and valuable software

Exercise 2

- a) What does the Just-in-Time principle mean?
- b) What are the advantages of following this principle? Are there any risks?

Exercise 3

Meyer, in the book, presents three agile technical principles that relate to testing. Why do you think that testing is emphasized that much?

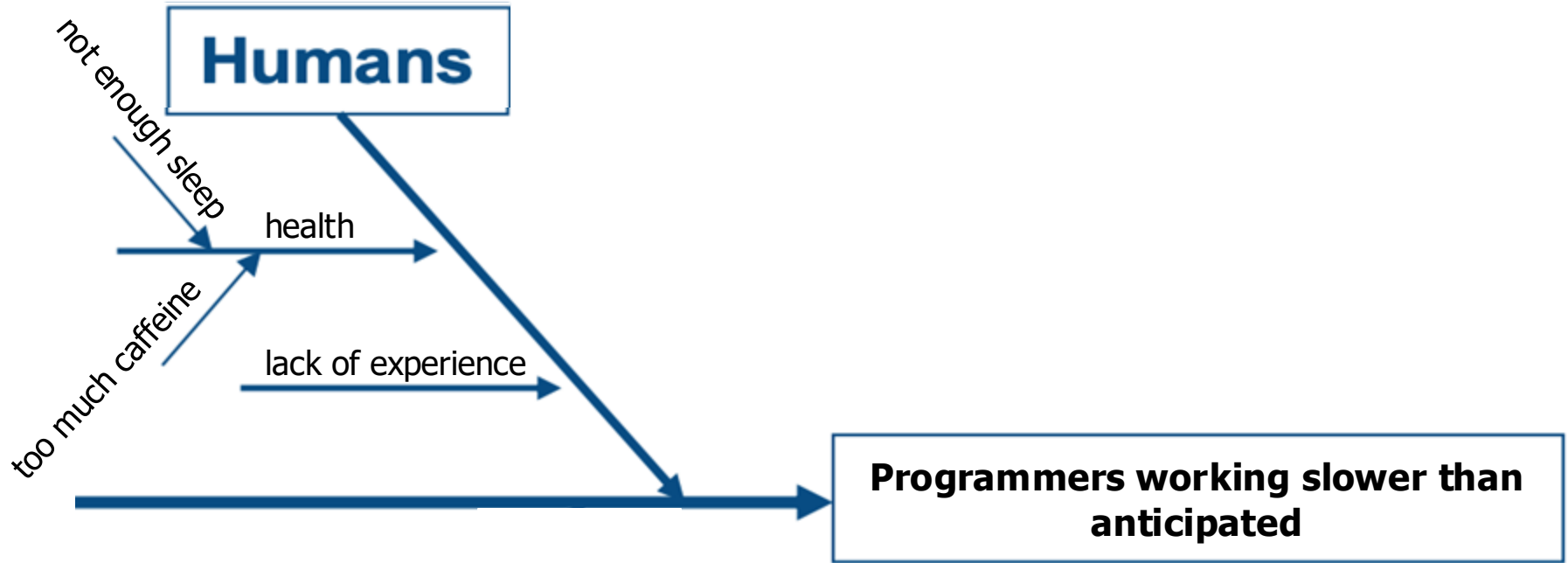
15 minute ☕ break

Fishbone diagram

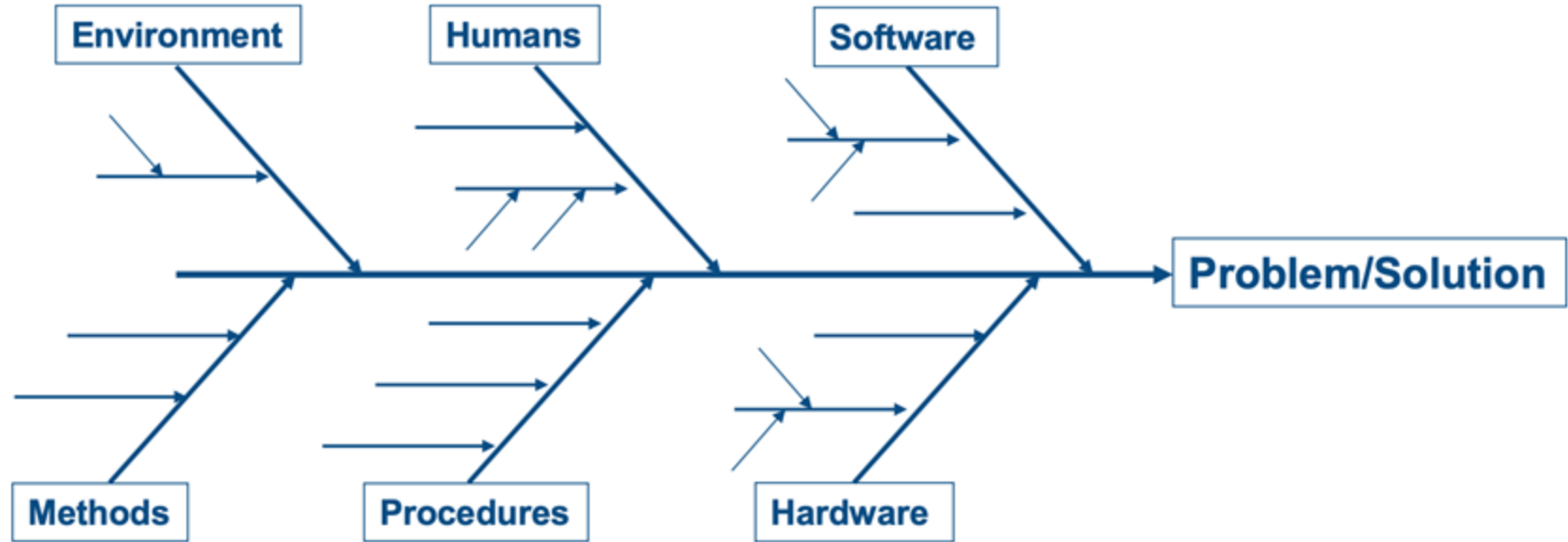
Also called Ishikawa diagram...

- A technique for root cause analysis
- Indicates relationship between effects and their possible causes

Fishbone diagram



Fishbone diagram



Exercise 4

Continuous improvement of processes is important in both agile and Lean.

- Do you evaluate your process (the way you work) in your IN5140 project regularly?
 - If yes, how do you perform the evaluation?
 - If no, how could you start doing it?
- Identify one problem in your project and draw a fishbone diagram to identify possible causes for the problem.
- Identify one thing that works well in your project and draw a fishbone diagram to identify possible causes for the success.

Previous exam questions

Thank you for today!



Next Week:

**Empirical research
methods in Software
Engineering**