Agile Software Development

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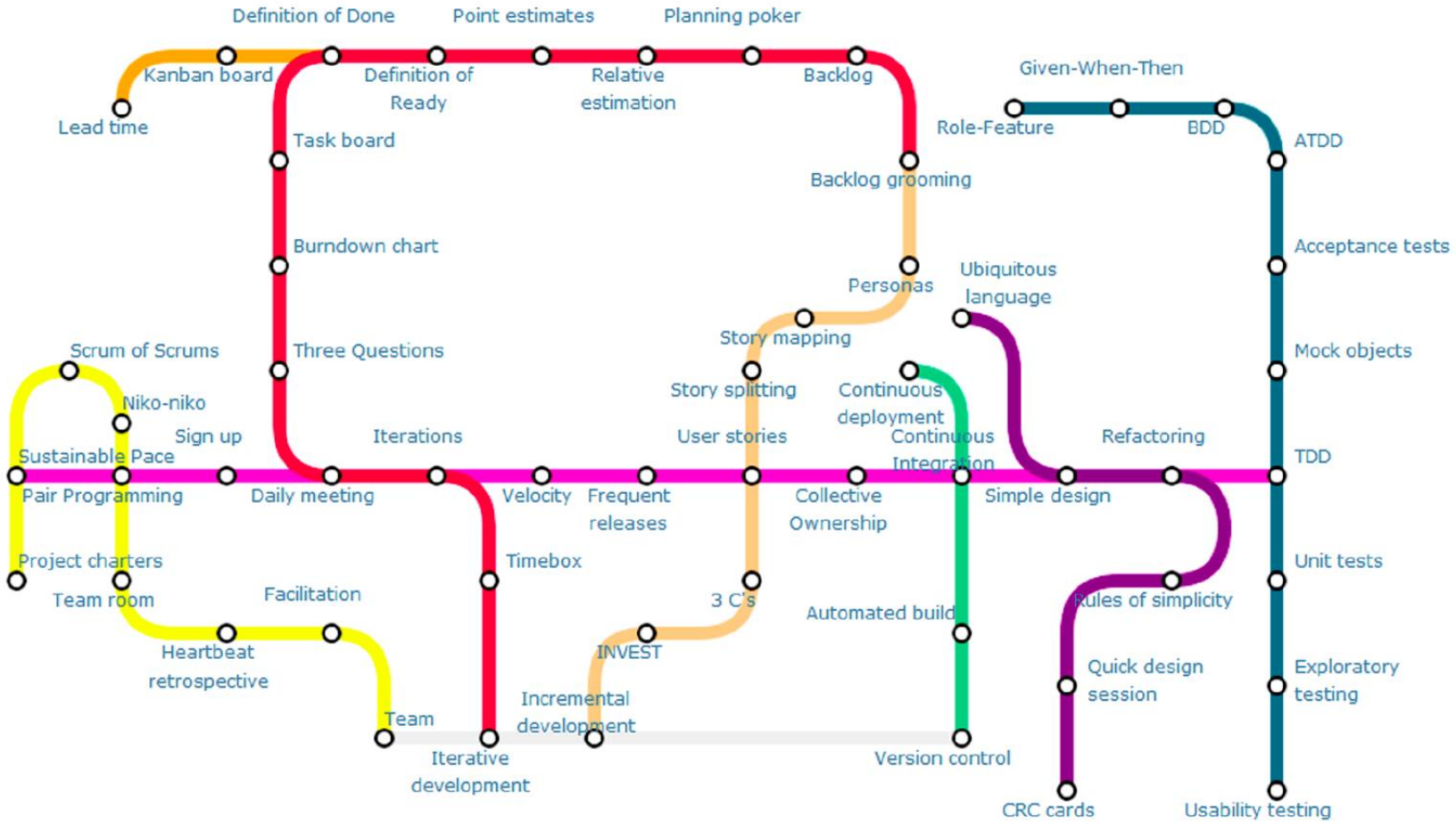
Lecture 5

Agile Practices: Team Management

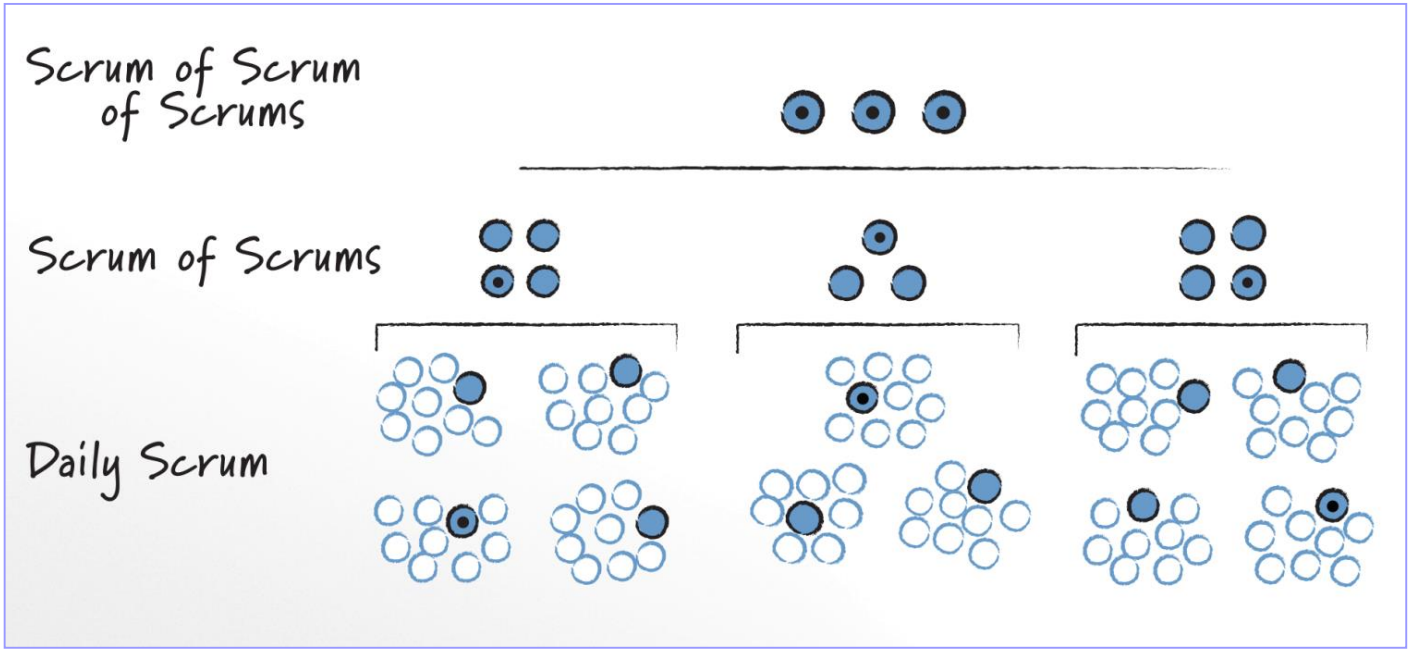
Map of Agile Practices



[Agile Alliance 2015]

Team Practices: Scrum of Scrums (SoS)

- A universal practice for coordinating work among several teams.
  - Each of the teams independently conducts its own daily scrum.
  - Each team also designates one person to attend a scrum of scrums meeting.
  - The scrum of scrums meetings can be scaled up in a recursive manner.



[Cohn 2010]

Scrum of Scrums: Details

- Teams may send both a development team member and their Scrum Master.
- The SoS is not held every day, but instead a few times a week as needed.
- Participants at the SoS answer similar questions to the ones answered at the daily scrum, but at an inter-team level.
- The SoS has a problem-solving significance in Scrum; issues can be stored in an issues backlog and addressed at SoS meetings.

Duration	Agenda Item
Timeboxed to 15 minutes	Each participant answers three questions: • What has my team done since we last met that could affect other teams? • What will my team do before we meet again that could affect other teams? • What problems is my team having with which it could use help from other teams? Note: No personal names during this part of the meeting.
As needed	Resolve problems and discuss items on an issues backlog.

[Cohn 2010]

Team Practices: Pair Programming

- Pair programming consists of two programmers sharing a single workstation (one screen, keyboard and mouse among the pair).
  - The programmer at the keyboard is usually called the driver.
  - The other, also actively involved in the programming task but focusing more on overall direction is the navigator, who reviews each line of code as it is typed in.
- Ultimate purpose: Achieving constant code inspection.
- Benefits:
  - Development time and costs are reduced in the long run.
  - Quality is improved.
  - Knowledge/Skill transfer and inter-team communication is enhanced.
  - Risk mitigation is promoted (pairing is especially effective when working in uncharted territory or solving difficult problems in known parts of the system).
  - Overall satisfaction is increased among the programmers.

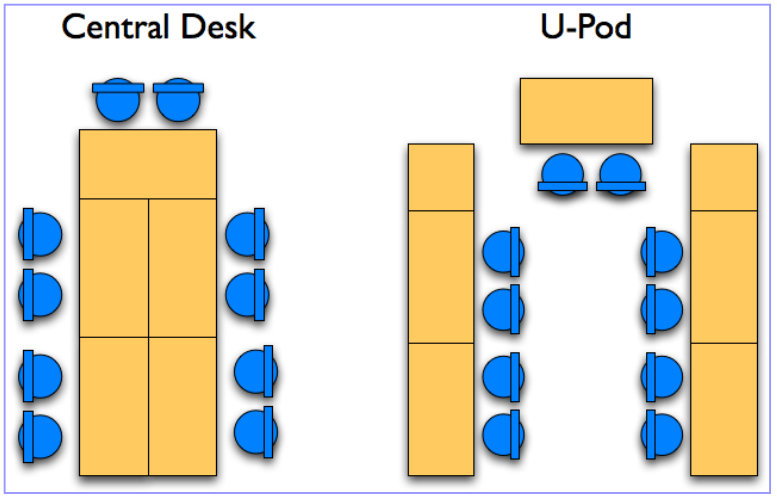
Pair Programming: Basic Rules

- It is expected that the programmers swap roles every few minutes or so.
- Both programmers must be actively engaging with the task throughout a paired session, otherwise no benefit can be expected.
- At least the driver, and possibly both programmers, are expected to keep up a running commentary.
  - Pair programming is "programming out loud" - if the driver is silent, the navigator should intervene.
- Pair programming cannot be fruitfully *forced* upon people.
  - If relationship issues are getting in the way, solve them first!
- It is not mandatory to apply pair programming all the time; it can be adopted on a part-time basis.
- Indicators of non-performance should be taken seriously: Disengagement, "Watch the Master" Phenomenon, and Silence.

Team Practices: Team Room

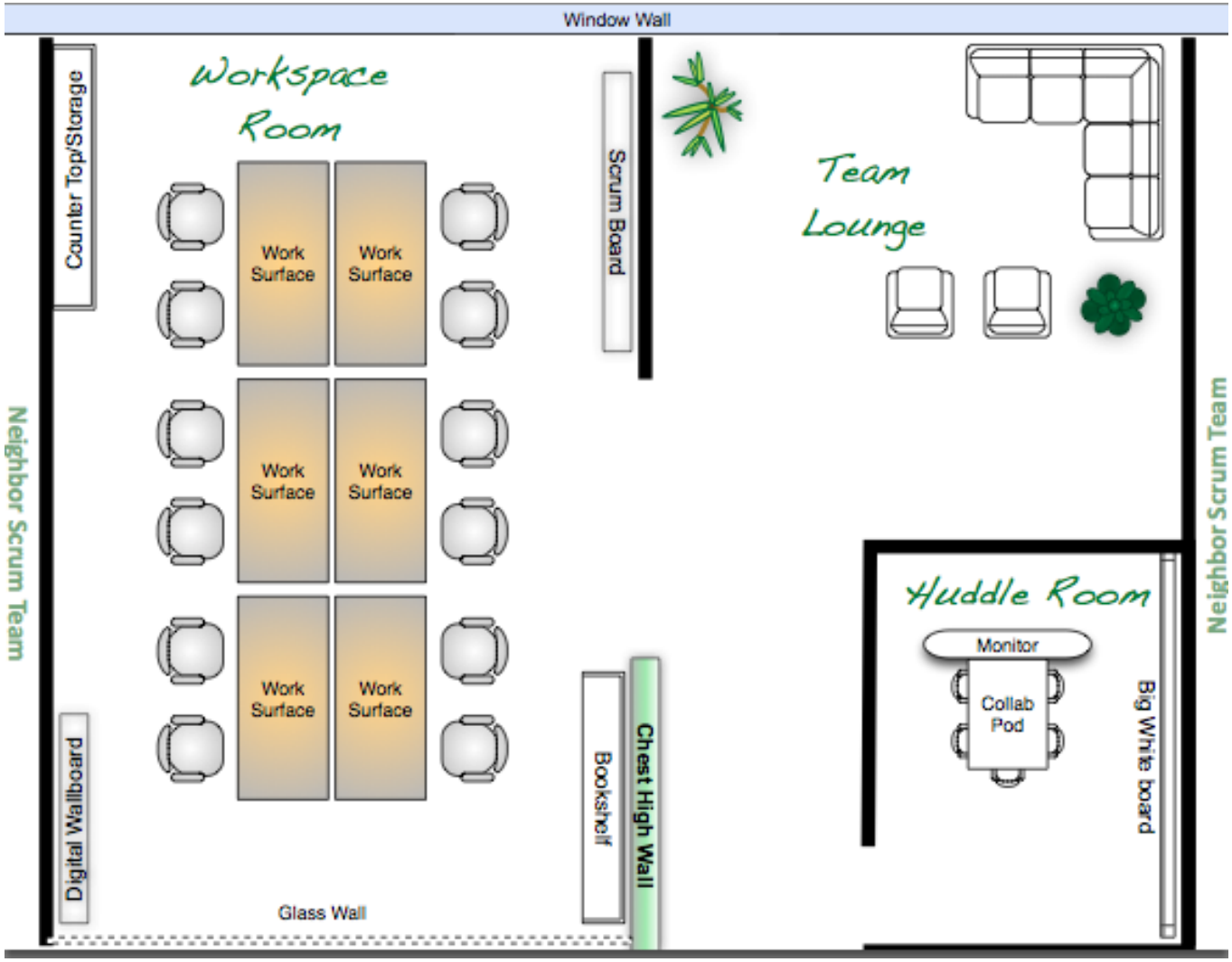
- The team has the use of a dedicated space for the duration of the project, set apart from other groups' activities.
- This space should be furnished with the various amenities that the team may need, including:
  - Workstations (adapted for pairing if the team uses that practice).
  - Whiteboards and other presentation equipment.
  - Adequate wall space to display task boards, project plans or other charts.

Alternative Desk Layouts



[http://martinfowler.com/bliki/UPod.html]

Team Room: Example Layout



[http://common-tech.com/2013/02/an-agile-workspace/]

Team Practices: Project Charter

- A high-level summary of the project's key success factors which is developed and maintained by the team.
  - It should be compact enough to be displayed on one wall of the team room as a flipchart-sized (A1) sheet of paper.
- This description includes at least the following:
  - Major objectives of the project.
  - Scope boundaries.
  - Agreements between the team and external stakeholders.
- Benefits:
  - It converges the overall perception of the team as to the project's goal and important aspects, its stakeholders, and the resources available.
  - It results in greater alignment of effort within the team, which is often a key determinant of project outcomes.

Project Charter: Example Template (Lean)

Background — **Plan**

- **Why is this important?**
- **Why should the reader care about this situation and be motivated to participate in improving?**

Assessment Questions

1. Is there a clear theme for the problem report that reflects the contents?
2. Is the topic relevant to the organization's objectives
3. Is there any other reason for working on this topic (e.g., learning purposes)?

Current Condition — **Plan**

- **How do things work today?**
- **What is the problem?**
- **Baseline Metrics?**

Assessment Questions

1. Is the current condition clear and logically depicted in a visual manner?
2. How could the current condition be made clearer for the audience?
3. Is the current condition depiction framing a problem or situation to be resolved?
4. What is the actual problem in the current condition?
5. Are the facts of the situation clear, or are there just observations and opinions?
6. Is the problem quantified in some manner or is it too qualitative?

Goal / Target Condition — **Plan**

- **What outcomes are expected for what reasons?**
- **What changes in metrics can be plausibly expected?**

Assessment Questions

1. Is there a clear goal or target?
2. What, specifically, is to be accomplished?
3. How will this goal be measured or evaluated?
4. What will improve, by how much, and when?

Root Cause Analysis — **Plan**

- **What is the root cause(s) of the problem?**
- **Use a simple problem analysis tool (e.g., 5 why's, fishbone diagram, cause/effect network) to show cause-and-effect relationships.**

Assessment Questions

1. Is the analysis comprehensive at a broad level?
2. Is the analysis detailed enough and did it probe deeply enough on the right issues?
3. Is there evidence of proper five-whys thinking about the true cause?
4. Has cause and effect been demonstrated or linked in some manner?
5. Are all the relevant factors considered (human, machine, material, method, environment, measurement, and so on?
6. Do all those who will need to collaborate in implementing the countermeasures agree on the cause/effect model reasoning?

Owner: Author leading the problem solving

Mentor: Person guiding and assessing process

Date: Current version Date

Countermeasures (Experiments) — ***Do***

- **Proposed countermeasure(s) to address each candidate root cause. [This should be a series of quick experiments to validate causal model analysis.]**
- **Predicted results for each countermeasure.**

Assessment Questions

1. Are there clear countermeasures steps identified?
2. Do the countermeasures link to the root cause of the problem?
3. Are the countermeasures focused on the right areas?
4. Who is responsible for doing what, by when (is 5Why-1How clear)
5. Will these action items prevent recurrence of the problem?
6. Is the implementation order clear and reasonable?
7. How will the effects of the countermeasures be verified?

Confirmation (Results) — **Check**

- **Actual result of each countermeasure (experiment).**
- **How does the system actually behave with the countermeasures that are being proposed for implementation in place?**

Assessment Questions

1. How will you measure the effectiveness of the countermeasures?
2. Does the check item align with the previous goal statement?
3. Has actual performance moved line with the goal statement?
4. If performance has not improved, then why? What was missed?

Follow-up (Actions) — **Act**

- **What have we learned that does or does not improve the situation?**
- **In the light of the learning, what should be done?**
- **How should the way we work or our standards be adjusted to reflect what we learned?**
- **What do we need to learn next?**

Assessment Questions

1. What is necessary to prevent recurrence of the problem?
2. What remains to be accomplished?
3. What other parts of the organization need to be informed of this result?
4. How will this be standardized and communicated?

[https://www.crisp.se/gratis-material-och-guider/a3-template]

References

- Agile Alliance, *Agile 101: Subway Map to Agile Practices.* Published online at: https://www.agilealliance.org/agile101/subway-map-to-agile-practices/, 2015 (visited: 14 September 2024).
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- Rubin, K.S., *Essential Scrum: A Practical Guide to the Most Popular Agile Process*, Addison-Wesley, 2012.
- Schwaber, K., Sutherland, J., *The Scrum Guide*, Published online at: http://www.scrumguides.org/, November 2020 (last visited on: 14 September 2024).