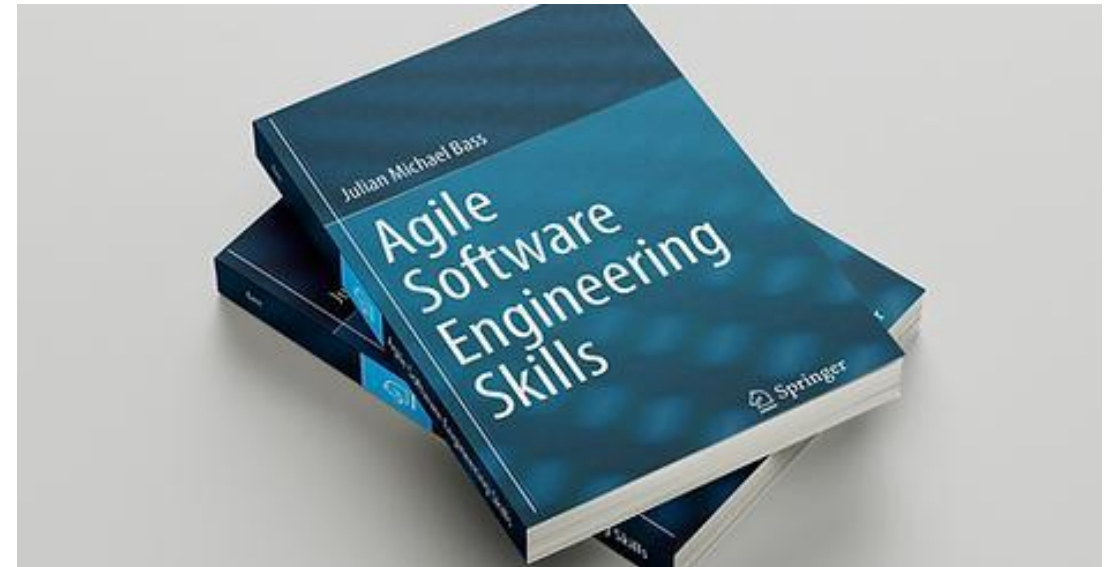


Agile Software Engineering Skills

Agile Roles
Chapter 3
Julian M. Bass



Introduction

- Self-organising teams (Chapter 2) create software
- Scrum masters and product owners create an environment in which teams can work
- Scrum masters facilitate team working; mentoring team members and removing impediments
- Product owners define and prioritise requirements

Contents

- Scrum master
 - Scrum Master Activities
- Product owner
 - Product owner activities
 - Product owner behaviours
- Larger project roles
 - Project sponsor
 - Technical architect

Scrum Master Activities

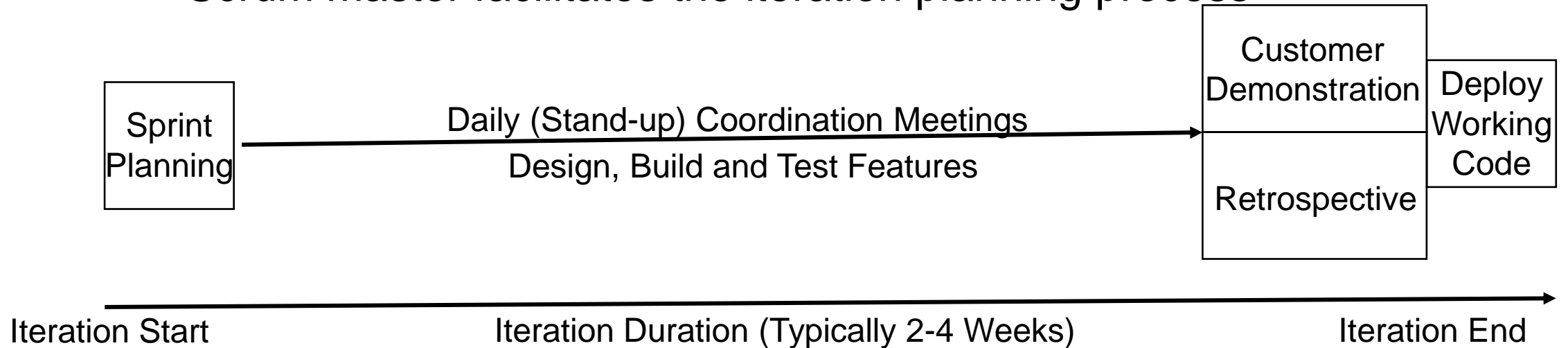
- Scrum masters facilitate the agile process used by teams
 - Bass, J. M. (2014). Scrum Master Activities: Process Tailoring in Large Enterprise Projects. *2014 IEEE 9th International Conference on Global Software Engineering (ICGSE)*, 6–15. <https://doi.org/10.1109/ICGSE.2014.24>
 - Noll, J., Razzak, M. A., Bass, J. M., & Beecham, S. (2017). A Study of the Scrum Master's Role. *Product-Focused Software Process Improvement*, 307–323. https://doi.org/10.1007/978-3-319-69926-4_22

Scrum Master Activities

- Process anchor
 - Mentors team members in scrum method use
 - Get the team into a rhythm, known as a cadence
 - Understands how agile methods work
 - Scrum master is not a team leader, or supervisor
 - Encourages team members to give their productive best

Scrum Master Activities

- Iteration planner
 - Helps select and estimate requirements for implementation
 - Scrum master facilitates the iteration planning process



Scrum Master Activities

- Stand-up facilitator
 - Conducts coordination meetings within a team
 - Stand-up purpose is to discuss and disseminate project status
 - When meeting drifts off-topic, steer back to project status

Scrum Master Activities

- Impediment remover
 - Eliminates work blockages for team members
 - Often varieties of missing information or lacking knowledge
 - Information gathering requirements networking skills and diplomacy

Scrum Master Activities

- Integration anchor
 - Facilitates amalgamation of software elements
 - Code goes through a plan, design, build, and test lifecycle
 - Scrum master needs to make sure this code integration happens

Plan	Requirements	Design	Build	Test	Deploy
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Product Owner

- Product owners communicate a business need to a development team
 - Teams know how to design, build, test and deploy systems
 - Product owner knows what system needs to be built
 - Product owners perform activities as part of their role
- Bass, J. M. (2015). How product owner teams scale agile methods to large distributed enterprises. *Empirical Software Engineering*, 20(6), 1525–1557. <https://doi.org/10.1007/s10664-014-9322-z>

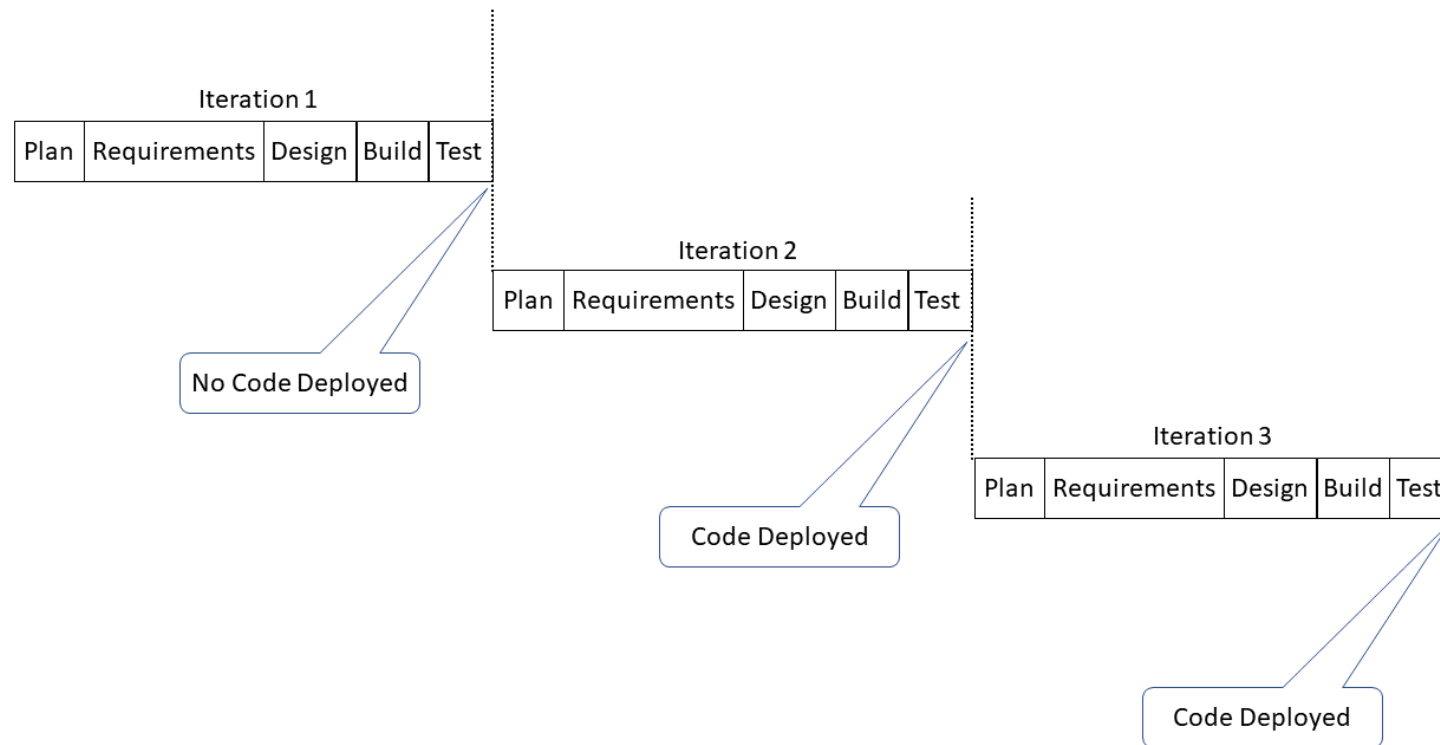
Product Owner Activities

- Product grooming
 - Product owner gathers, or elicits, requirements from clients
 - Product owner needs detailed awareness of market trends and competitor behaviour
- Prioritiser
 - Product owner ensures that requirements bring maximum value to the business
 - Decide which requirements are most important for the next iteration

Product Owner Activities

- Release Master
 - Approves software source code for release to customers
 - Early iterations may have insufficient functionality to release (see Fig)
 - Manages release plans
- Communicator
 - Product owner connects onshore and offshore stakeholders
 - Uses audio and video conferencing, and on-line collaboration tools

Release Master



Product Owner Activities

- Traveller
 - Product owner spends time with geographically remote stakeholders
 - Gathers first-hand knowledge of their needs and priorities
- Intermediary
 - Interfaces with senior executives driving software development programmes
 - Disseminates domain knowledge to teams

Product Owner Behaviours

- These are traits that product owners display, desirable to their line managers
 - Bass, J. M., & Haxby, A. (2019). Tailoring Product Ownership in Large-Scale Agile Projects: Managing Scale, Distance, and Governance. *IEEE Software*, 36(2), 58–63. <https://doi.org/10.1109/MS.2018.2885524>
- Face-to-Face Interactions
 - Understanding, trust, and empathy come from building social capital through face-to-face interactions

Product Owner Behaviours

- Understand and Focus on Real Goals
 - Use influencing skills to keep a wide range of stakeholders targeted on a specific and focused set of goals
- Make Product-Owner Teams Well Defined
 - Product sponsor, intermediary, and technical architect form a product-owner team
 - Product owner team building should be explicit and well defined

Other Roles - for Larger Projects

- Product sponsor
 - Project funder – often a senior executive running a large organisation
 - You may not see much of the project funder, they may be busy with other responsibilities
- Technical Architect
 - Choose architectural styles which maybe controversial
 - An experienced technology leader with the gravitas to carry the team towards a coherent approach

Exercises

- Exercises 3.1 and 3.9 encourage creation of a learning journal
- Exercises 3.2 to 3.5 rehearse scrum ceremonies (iteration planning, coordination meeting, customer demonstration and retrospective)
- Exercises 3.6 to 3.8 rehearse requirements elicitation

Summary

- Scrum Master
 - Facilitates the agile process used by the team
- Product Owner
 - Communicates a business need for the team to fulfil
- Other Roles
 - Project sponsor, project funder
 - Technical architect, technology thought leader