

Introduction to Scrum - Part I

Key Concepts, Roles, Artifacts and Rules

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Agile Software Development

- In the late 1990s, several new software development methodologies emerged
- Emphasized close collaboration between development team and business stakeholders
- Focused on frequent delivery of business value

Agile Software Development

- The term “Agile” appeared for the first time in 2001 when the *Agile Manifesto* was published

Agile Manifesto

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

Scrum Framework

Definition

Scrum (n): A framework within which people can address complex adaptive problems, while productively and creatively delivering products of the highest possible value.

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Key Characteristics:

- Lightweight
- Simple to understand
- Difficult to master

Scrum Framework

Main concept:

- Have a small team of people that is highly *flexible* and *adaptive*
- Employ an iterative, incremental approach to *optimize predictability* and *control risk*
- Make decisions based on empirical process control theory, or *empiricism*

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Definition

Empiricism (n): Knowledge comes from experience and making decisions on what is known.

Scrum Framework

Three pillars uphold every implementation of empirical process control:

- **Transparency**

Make significant aspects of the process visible to those responsible for the outcome

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Make significant aspects of the process visible to those responsible for the outcome

- **Inspection**

Frequently inspect the progress towards a goal to detect undesirable variances

- **Adaption**

Adjust the process as soon as possible to minimize further deviation

The Scrum Team

The Scrum Team consists of:

- A Product Owner
- The Development Team
- A Scrum Master

The Scrum Team

Scrum Team Characteristics:

- Deliver products *iteratively* and *incrementally* to maximize opportunities for feedback
- *Self-organizing*
- *Cross-functional*

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Definition

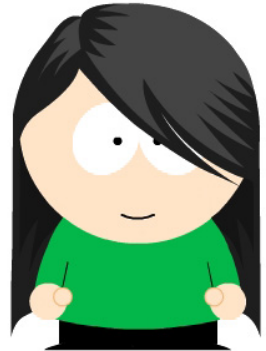
Self-organizing teams choose how best to accomplish their work, rather than being directed by others outside the team.

Definition

Cross-functional teams have all competencies needed to accomplish the work without depending on others not part of the team.

The Product Owner

- Responsible for maximizing the value of the product resulting from work of the development team
- The **only** person responsible for managing the *Product Backlog*
- **One person**, not a committee



The Product Owner

- The Product Owner's decisions are visible in the content and ordering of the Product Backlog
- They may have someone else manage the Product Backlog however, they remain **accountable**

The Development Team

- Consists of professionals who do the work of delivering a *potentially releasable* Increment of "Done" product at the end of each Sprint
- Size: 3 to 9 members



The Development Team

Key Characteristics:

- Self-Organizing & Cross-Functional
- Scrum recognizes no titles for Development Team members
- Scrum recognizes no sub-teams in the Development Team

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Important

Accountability belongs to the team as a whole

The Scrum Master

- Promotes and supports Scrum
- Helps everyone understand Scrum theory, practices and rules
- Helps those outside the Scrum Team understand which interactions are helpful and which aren't
- Acts as a *Servant-Leader* for the Scrum Team



Scrum Events

Scrum prescribes five formal events:

- 1 The Sprint
- 2 Sprint Planning
- 3 Daily Scrum
- 4 Sprint Review
- 5 Sprint Retrospective

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- 5 Sprint Retrospective

Key Characteristics

- Create regularity
- Minimize the need for meetings not defined in Scrum
- Time-boxed
- Each event is an opportunity to inspect and adapt something

The Sprint

- Acts as a container for all other events
- Duration: One month or less (consistency is important)
- A new sprint starts immediately after the conclusion of the previous Sprint
- A “Done”, potentially releasable product increment is created

The Sprint

During The Sprint:

- No changes that would endanger the Sprint Goal
- Quality goals do not decrease
- Scope may be clarified and re-negotiated between the Product Owner and the Development Team as more is learned

The Sprint

Cancelling a Sprint:

- **Only** the Product Owner has the authority to cancel a Sprint
- The Sprint is cancelled if the Sprint Goal becomes obsolete

Sprint Planning

Key Concept

During Sprint Planning, the Scrum Team collaborates and creates a plan for the next Sprint

- What can be delivered in the Increment resulting from the upcoming Sprint?
- How will the work needed to deliver the Increment be achieved?
- Max duration: 8 hours for a one-month Sprint
- Attendees: All Scrum Team members

Sprint Planning

- The number of items selected from the Product Backlog for the Sprint is **solely** up to the Development Team
- The Product Owner can help to clarify selected Product Backlog Items and make trade-offs
- The Development Team may renegotiate selected Product Backlog Items with the Product Owner

Sprint Planning

- The Development Team may invite other people to attend to provide technical or domain advice
- Output of Sprint Planning: *Sprint Backlog* and *Sprint Goal*

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Sprint Backlog

A set of Product Backlog Items selected for this Sprint plus, a plan for delivering them

Sprint Goal

An objective that will be met within the Sprint through the implementation of the selected Product Backlog Items

Daily Scrum

Key Concept

During the Daily Scrum, the Development Team plans work for the next 24 hours

- Held every day of the Sprint at the same place and time
- Max duration: 15 minutes
- Attendees: All Development Team members

Daily Scrum

- The Daily Scrum is an internal meeting for the Development Team. If others are present, the Scrum Master ensures they **do not disrupt** the meeting
- The Development Team or team members often meet immediately after the Daily Scrum for related discussions

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Important

The Scrum Master ensures that the Development Team has the meeting but the Development Team is responsible for conducting the Daily Scrum

Daily Scrum

Benefits

- Improve communications
- Eliminate other meetings
- Identify impediments to development for removal
- Highlight and promote quick decision-making
- Improve the Development Team's level of knowledge

Sprint Review

- The Sprint Review is **not** a demo
- The presentation of the Increment is intended to elicit feedback and foster collaboration
- Result: A revised Product Backlog that defines the *probable* Product Backlog Items for the next Sprint

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Important

The Sprint Review is an informal meeting, not a status meeting

Sprint Retrospective

Key Concept

- Identify how the last Sprint went with regards to people, relationships, processes and tools
 - Identify improvements and create a plan for implementing them
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- Occurs after the Sprint Review and prior to the next Sprint Planning
 - Max duration: 3 hours for a one-month Sprint
 - Attendees: All Scrum Team members

Sprint Retrospective

- The Scrum Master participates as peer team member from the accountability over the Scrum process
- By the end of the Retrospective the Scrum Team should have identified improvements that it will implement in the next Sprint

Scrum Artifacts

Scrum uses the following Artifacts to provide transparency and opportunities for inspection and adaption:

- 1 Product Backlog
- 2 Sprint Backlog
- 3 Increment

Product Backlog

- Ordered list of everything that is known to be needed in the Product
- Single source of requirements for any changes to be made to the Product
- It is dynamic
- It is never complete

Product Backlog Refinement

Key Concept

The act of adding **detail**, **estimates** and **order** to items in the Product Backlog

- The Product Owner and the Development Team cooperate during refinement
- The Scrum Team decides *how* and *when* refinement is done
- Usually consumes no more than 10% of the team's capacity

Sprint Backlog

- The set of Product Backlog Items to selected for the Sprint
- A plan for delivering the Increment and realizing the Sprint Goal
- Includes at least one high priority process improvement identified in the previous Retrospective meeting

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Important

The Sprint Backlog belongs solely to the Development Team and only they can change it during a Sprint

Increment

- The sum of all Product Backlog Items completed during a Sprint and the value of Increments of all previous Sprints
- A step towards a vision or a goal
- Must be in usable condition regardless of whether the Product Owner decides to release it

Resources

- 1 The Agile Manifesto
<https://agilemanifesto.org/>
- 2 The Scrum Guide
<https://www.scrumguides.org>
- 3 Scrum: What It Is, What It's Not, & Why It's Awesome - Atlassian
<https://www.atlassian.com/agile/scrum>
- 4 Scrum Pocket Guide Book - Not free
<https://www.amazon.com/Scrum-Pocket-Guide-Practice-Publishing-ebook/dp/B00GY6WRTG>

End of Presentation

Questions?