Introduction to Scrum - Part I

Key Concepts, Accountabilities, Artifacts and Rules

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January 18, 2021

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: A lightweight framework that helps people, teams and organizations generate value through adaptive solutions for complex problems.

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Key Characteristics:

- Simple
- Purposefully incomplete
- Built upon by the collective intelligence of the people using it
- Follows an iterative, incremental approach to *optimize predictability & control risk*
- Makes visible the relative efficacy of current management, environment and work techniques, so that *improvements* can be made

Scrum Framework

Main concept

A Scrum Master creates an environment where:

- A Product Owner orders the work for a complex problem into a Product Backlog
- The Scrum Team turns a selection of the work into an Increment of value during a Sprint
- The Scrum Team and its stakeholders inspect the results and adjust for the next Sprint
- *Repeat*

Scrum Framework

Scrum is founded on:

- **Empiricism**
  Knowledge comes from experience and making decisions based on what is observed

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- **Empiricism**
  Knowledge comes from experience and making decisions based on what is observed
- **Lean thinking**
  Reduce waste (non-value added activities) and focus on the essentials

Scrum Framework

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- **Transparency**
  Make the emergent process and work visible to those performing the work as well as those receiving the work

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- **Transparency**
  Make the emergent process and work visible to those performing the work as well as those receiving the work
- **Inspection**
  Frequently inspect the Scrum artifacts and progress toward agreed goals to detect potentially undesirable variances or problems
- **Adaption**
  If any aspects of a process deviate outside acceptable limits or if the resulting product is unacceptable adjustments must be made *as soon as possible* to minimize further deviation

The Scrum Team

The Scrum Team consists of:

- Developers
- The Product Owner
- A Scrum Master

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Qualities:

- Focused on one objective at a time, the *Product Goal*
- Accountable for creating a valueable, useful Increment every Sprint

The Scrum Team

Characteristics:

- Typically 10 or fewer people
- No sub-teams or hierarchies
- *Self-managing*
- *Cross-functional*

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Definition

Self-managing teams internaly decide who does what, when and how.

Definition

Cross-functional teams have all the skills necessary to create value each Sprint.

Developers

The people in the Scrum Team that are committed to creating any aspect of a *usable* Increment each Sprint.

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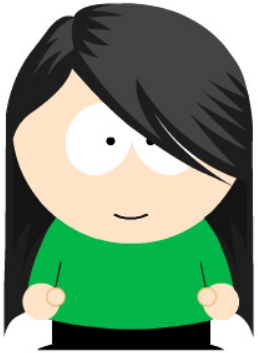
Accountable for:

- Creating a plan for the Sprint (the Sprint Backlog)
- Instilling quality by adhering to the Definition of Done
- Adapting their plan each day toward the Sprint Goal
- Holding each other accountable as professionals

The Product Owner

- Accountable for maximizing the value of the product resulting from the work of the Scrum Team
- Accountable for effective Product Backlog management
- **One person**, not a committee



The Product Owner

- The Product Owner's decisions are visible in the content and ordering of the Product Backlog and through the inspectable Increment at the Sprint Review
- The *entire organization* must respect their decisions
- The Product Owner may manage the Product Backlog themselves or may delegate the responsibility to others. They, however, remain **accountable**

The Scrum Master

- Accountable for establishing Scrum as defined in the Scrum Guide
- Helps everyone understand Scrum theory, practices and rules
- Guides and coaches the Scrum Team to improve its practices within the Scrum framework

The Scrum Master

- Accountable for the Scrum Team's effectiveness
- *Leader* that serves the Scrum Team and the larger organization

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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3. Daily Scrum
4. Sprint Review
5. Sprint Retrospective

Key Characteristics

- Enable the transparency required
- Create regularity
- Minimize the need for meetings not defined in Scrum
- Each event is a formal opportunity to inspect and adapt Scrum artifacts

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
- Sprints enable predictability by ensuring inspection and adaptation of progress toward a Product Goal *at least* every calendar month

The Sprint

During The Sprint:

- No changes are made that would endanger the Sprint Goal
- Quality does not decrease
- The Product Backlog is refined as needed
- Scope may be clarified and renegotiated with the Product Owner 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

Sprint Planning initiates the Sprint by laying out the work to be performed

- Why is this Sprint valuable?
- What can be Done this Sprint?
- How will the chosen work get done?
- Max duration: 8 hours for a one-month Sprint
- Attendees: All Scrum Team members

Sprint Planning

- The Product Owner ensures that attendees are *prepared* to discuss the most important Product Backlog items and how they map to the Product Goal
- The Scrum Team may refine Product Backlog items during Sprint Planning to increase its understanding and confidence
- Developers will become more confident in their Sprint forecasts as they learn more about their performance, upcoming capacity and the Definition of Done

Sprint Planning

- The Scrum Team may invite other people to attend the Sprint Planning to provide advice
- It is solely up to the Developers to plan how to turn Product Backlog items to an Increment that meets the Definition of Done
- Output of Sprint Planning: *Sprint Backlog*

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Sprint Backlog

- The Sprint Goal (communicates why the Sprint is valuable to stakeholders)
- The Product Backlog items selected for the Sprint
- A plan for delivering them

Daily Scrum

Key Concept

Inspect progress toward the Sprint Goal and adapt the Sprint Backlog as necessary

- Held every working day of the Sprint at the same place and time
- Max duration: 15 minutes
- Attendees: All Developers

Daily Scrum

- If the Product Owner or Scrum Master are actively working on items in the Sprint Backlog, they participate as Developers
- Developers can select whatever structure and techniques they want as long as their Daily Scrum focuses on progress toward the Sprint Goal and produces an actionable plan for the next day of work

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Important

The Daily Scrum is not the only time Developers are allowed to adjust their plan. They often meet throughout the day for more detailed discussions about adapting or re-planning the rest of the Sprint's work

Daily Scrum

Benefits

- Improve communication
- Identify impediments
- Promote quick decision-making
- Eliminate the need for other meetings

Sprint Review

Key Concept

Inspect the outcome of the Sprint and determine future adaptations

- Held at the end of the Sprint, before the Sprint Retrospective
- Max duration: 4 hours for a one-month Sprint
- Attendees: All Scrum Team members and Stakeholders

Sprint Review

- The Sprint Review is a *working session* and the Scrum Team should avoid limiting it to a presentation
- The Product Backlog may be adjusted following the Sprint Review to meet new opportunities

Sprint Retrospective

Key Concept

- Inspect how the last Sprint went with regards to individuals, interactions, processes, tools and the Definition of Done
- Identify the most helpful changes and *address* them as soon as possible

- Last event of the Sprint
- Max duration: 3 hours for a one-month Sprint
- Attendees: All Scrum Team members

Scrum Artifacts

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

1. Product Backlog
2. Sprint Backlog
3. Increment

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Each artifact contains a commitment to ensure it provides information that enhances transparency and focus against which progress can be **measured**

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1. Product Backlog - *Commitment: Product Goal*
2. Sprint Backlog - *Commitment: Sprint Goal*
3. Increment - *Commitment: Definition of Done*

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Product Backlog

- Emergent, ordered list of what is needed to improve the product
- Single source of work undertaken by the Scrum Team
- Product Backlog items that can be Done by the Scrum Team within one Sprint are deemed *ready* for selection in a Sprint Planning event
- Product Backlog items *usually* acquire the necessary degree of transparency after refining activities

Product Backlog Refinement

Key Concept

The act of breaking down and further defining Product Backlog items into smaller, more precise items

- An ongoing activity during which details such as a *description*, *order* and *size* are added to Product Backlog items
- Attributes added usually vary with the domain of work

Product Goal

- Future state of the product
- Serves as a long-term objective for the Scrum Team to plan against
- Resides in the Product Backlog. The rest of the Product Backlog emerges to define "what" will fulfill the Product Goal
- The Scrum Team must fulfill (or abandon) one Product Goal before taking on the next

Sprint Backlog

- The Sprint Goal (why)
- The set of Product Backlog items selected for the Sprint (what)
- An actionable plan for delivering the Increment (how)

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Important

A plan **by and for** the Developers that is updated throughout the Sprint as more is learned

Sprint Goal

- Single objective for the Sprint
- Creates coherence and focus
- Encourages the Scrum Team to work together rather than on separate initiatives
- Provides flexibility to the Developers in terms of the exact work needed to achieve it

Increment

- A concrete step toward the Product Goal
- The moment a Product Backlog item meets the Definition of Done, an Increment is born
- Each Increment is additive to all prior Increments and thoroughly verified to ensure that all Increments work together
- Multiple Increments may be created within a Sprint
- Must be **usable**

Definition of Done

- A formal description of the state of the Increment when it meets the quality measures required for the product
- Creates transparency by providing everyone a shared understanding of what work was completed as part of the Increment
- Developers are required to conform to the Definition of Done
- Work cannot be considered part of an Increment unless it meets the Definition of Done

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?