SCRUM

Framework for Developing Adaptive Solutions for Complex Problems

Turning Visions into Business.

wibas

SPRINT START »

SPRINT WORK »

SPRINT CLOSE »

SPRINT PLANNING

SPRINT RETROSPECTIVE

SPRINT REVIEW

DAILY SCRUM

WORK

Product Goal · Product Backlog · Sprint Backlog · Sprint Goal · Definition of Done · Increment

Day A · Day B · Day C · Day … · Day X · Day Y · Day Z

Information on timing

A **Sprint** is a timebox of one month or less, preferably all of the same length to create consistency. In general, the length of a Sprint depends on how long a change can be kept out of a Sprint.

Sprint Planning is a timebox of altogether eight hours at maximum for a one-month Sprint. For shorter Sprints, the event is usually shorter.

Daily Scrum is a short 15 minutes daily meeting. It is held at the same time and place to reduce complexity.

Product Backlog is **refined** as needed.

Sprint Review is timeboxed to a maximum of four hours for a one-month Sprint. For shorter Sprints, the event is usually shorter.

Sprint Retrospective is timeboxed to a maximum of three hours for a one-month Sprint. For shorter Sprints, the event is usually shorter.

Information on useful techniques

Colocation is a technique where a team works together face-to-face in a common space. This space can be physical, but also virtual. The important aspect is that team members can see and speak to one another directly. Colocation increases team productivity since direct communication is the best way to share information. In addition, visibility increases awareness and attention for each other and for the team as a whole. The team should find a balance between communicative collaboration and quiet work.

Five Phases of a Retrospective is a technique to facilitate a team to inspect its way of work and to identify actions to make it better. First, set the stage. Create an atmosphere where people feel comfortable discussing issues based on the understanding that everyone did the best job he or she could do, regardless of what will be discovered. Second, gather data. This is often done by looking back and identifying what went well and what did not. Third, generate insights. In this phase, teams typically identify why things happened and what should be done more, less or given a try. Fourth, decide what to do. This includes deciding on specific, meaningful, agreed and realistic actions which will be done in the next Sprint. Fifth, close the retrospective. Decide how to document the results and plan for follow-up.

Every now and then there are **Impediments in the Sprint** that block the progress of work. These impediments and the work needed to remove them can be made visible in the Sprint Backlog. To do this, a sign is used to mark blocked work (e.g. a stop sign magnet). The work to remove the impediment is included and treated like any other work in the Sprint Backlog. If necessary, you can mark the affected work items in red to make the connection to the obstacle visible. This integration of impediments in the Sprint Backlog has the advantage that all work is in one place.

Planning Poker is a consensus based technique for estimating Product Backlog items or other things in Scrum. Usually teams estimate the relative size of items. Planning poker results in reliable and efficient estimations because the team gains a common understanding about the items. Planning Poker is a variation of the Wideband Delphi method.

The **Release Burndown** is a technique to publicly display the progress of the current release. Typically a Release Burndown graph is used. The remaining work for a release is displayed on the vertical axis while the Sprints of a release are shown on the horizontal axis. Every Sprint the Product Owner updates the Release Burndown based on the velocity and the estimations of the team. Often the Release Burndown is used for the complete product showing the Burndown for all releases.

Release Planning is a technique to order the realization of the product into releases and to forecast delivery dates. It establishes the goals of the release and the highest priority Product Backlog items describing the overall features and functionality which the release will contain. A release is an Increment that is transitioned into routine use by customers. Releases typically happen when one or more sprints resulted in the product having enough value to outweigh the cost to deploy it. The release plan establishes the goals of the release. The forecast is based on the team's velocity and estimations of the items in the release.

Sprint Burndown is a technique to publicly display the progress of the current Sprint. Typically a Sprint Burndown graph is used. The remaining work is displayed on the vertical axis while the work days of a Sprint are shown on the horizontal axis. In the Daily Scrum the Developers update the Sprint and plot the remaining work of the day. While Sprint Burndowns are useful, they do not replace the importance of empiricism.

User Stories are a technique to describe requirements from the perspective of a user utilizing everyday language. A User Story captures what the user wants to achieve and why he or she wants it. User Stories generally follow this template: "As a USER I want GOAL/DESIRE so that BENEFIT." The three elements are important, the sentence structure may vary. A User Story should be short and precise and fit on a small note card. User Stories provide a simple and easy way of handling customer requirements which can be product or service requirements. The intention of User Stories is to quickly capture the requirements and to iteratively refine and break them down. In Scrum the User Stories technique is often used to write Product Backlog items.

AGILE PRINCIPLES

Principles for high performing teams and organizations.

Empowerment and Self-Management
Teams are empowered and responsible for all decisions needed to deliver the Increment. They internally decide who does what, when and how. Teams are cross-functional.

Early and Regular Deliveries
Every member of the team focuses on delivering the product incrementally. Early and regular deliveries ensure a continuous flow of results which enable teams to inspect and adapt.

Inspection and Adaption
Teams regularly reflect on how to be more effective and efficient. This applies to the product as well as to the way of work.

Transparency
Teams share information and knowledge to foster collaboration so that everyone can contribute in the best possible way to reach the goals.

Timeboxing
Everything in Scrum is timeboxed, meaning it has a definite beginning and end which is never extended. This ensures discipline, focus and on-time deliveries.

SPRINT

Sprints are the heartbeat of Scrum, where ideas are turned into value, i.e. where finished and useful increments are developed. Multiple Sprints encompass all the work necessary to achieve the Product Goal. A Sprint includes the following events: Sprint Planning, Daily Scrums, Sprint Review, and Sprint Retrospective. A new Sprint starts immediately after the conclusion of the previous Sprint. During the Sprint no changes are made that would endanger the Sprint Goal.

Sprint Planning, Topic One:
Why is this Sprint valuable?
The Product Owner proposes how the product could increase its value and utility in the current Sprint. Then the whole Scrum Team collaborates to define a Sprint Goal and finalizes it prior to the end of the Sprint Planning.
Techniques: • Colocation

Sprint Planning, Topic Two:
What can be done this Sprint?
Through discussion with the Product Owner, the Developers select items from the Product Backlog to include in the current Sprint.
Techniques: • Colocation

Sprint Planning, Topic Three:
How will the chosen work get done?
For each selected Product Backlog item, the Developers plan the work necessary to create an Increment that meets the Definition of Done. This is often done by decomposing Product Backlog items into smaller work items of one day or less.
Techniques: • Colocation

The purpose of the **Sprint Retrospective** is to plan ways to increase quality and effectiveness. The Scrum Team inspects how the last Sprint went with regards to individuals, interactions, processes, tools, and their Definition of Done. The Scrum Team discusses what went well during the Sprint, what problems it encountered, and how those problems were (or were not) solved. The Scrum Team identifies the most helpful changes to improve its effectiveness. The most impactful improvements are addressed as soon as possible. They may even be added to the Sprint Backlog for the next Sprint. The Sprint Retrospective concludes the Sprint.
Techniques: • Colocation
• Fünf Phasen einer Retrospektive

A **Sprint Review** is the second to last event in the Sprint. The Scrum Team presents the results of their work to key stakeholders and progress toward the Product Goal is discussed. They review what was accomplished in the Sprint and what has changed in their environment. Based on this information, attendees collaborate on what to do next. The purpose of the Sprint Review is to inspect the outcome of the Sprint and determine future adaptations.
Techniques: • Colocation

Product Backlog Refinement is the act of breaking down and further defining Product Backlog items into smaller more precise items. This is an ongoing activity to add details, such as a description, order, and size.
Techniques: • Planning Poker
• Colocation
• Release Planning
• Release Burndown

The purpose of the **Daily Scrums** is to inspect progress toward the Sprint Goal and adapt the Sprint Backlog as necessary, adjusting the upcoming planned work. The 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. This creates focus and improves self-management. Daily Scrums improve communications, identify impediments, promote quick decision-making, and consequently eliminate the need for other meetings.
Techniques: • Sprint Burndown
• Impediments in Sprint Backlog

Information on the Scrum Team

The **Scrum Team** consists of one Scrum Master, one Product Owner, and Developers. It is a cohesive unit of professionals focused on one objective at a time. Scrum Teams are cross-functional, meaning the members have all the skills necessary to create value each Sprint. They are also self-managing, meaning they internally decide who does what, when, and how. The Scrum Team is responsible for all product-related activities from stakeholder collaboration, verification, maintenance, operation, experimentation, research and development, and anything else that might be required. The entire Scrum Team is accountable for creating a valuable, useful Increment every Sprint.

The **Product Owner** is accountable for maximizing the value of the product resulting from the work of the Scrum Team. The Product Owner is also accountable for effective Product Backlog management, which includes:
- Developing and explicitly communicating the Product Goal
- Creating and clearly communicating Product Backlog items
- Ordering Product Backlog items
- Ensuring that the Product Backlog is transparent, visible and understood

Those wanting to change the Product Backlog can do so by trying to convince the Product Owner.

The **Scrum Master** is accountable for establishing Scrum. They do this by helping everyone understand Scrum theory and practice, both within the Scrum Team and the organization. The Scrum Master is also accountable for the Scrum Team's effectiveness. They do this by enabling the Scrum Team to improve its practices, within the Scrum framework. Scrum Masters are true leaders who serve the Scrum Team and the larger organization.

Developers are the people in the Scrum Team that are committed to creating usable Increments each Sprint. The specific skills needed by the Developers are often broad and will vary with the domain of work. Developers are accountable for:
- Creating a plan for the Sprint, the Sprint Backlog
- Instilling quality by adhering to a Definition of Done
- Adapting their plan each day toward the Sprint Goal
- Holding each other accountable as professionals.

Information on artifacts

The **Product Backlog** is an emergent, ordered list of what is needed to improve the product. The Product Backlog is the single source of work for the Scrum Team. The Product Backlog is refined continuously as needed (see Product Backlog Refinement).

The **Product Goal** describes a future state of the product which can serve as a target for the Scrum Team to plan against. The Product Goal is in the Product Backlog. The rest of the Product Backlog emerges to define "what" will fulfill the Product Goal. The Product Goal is the long-term objective for the Scrum Team. They must fulfill (or abandon) one objective before taking on the next. A product is a vehicle to deliver value. It has a clear boundary, known stakeholders, well-defined users or customers. A product could be a service, a physical product, or something more abstract.

An **Increment** is a concrete stepping stone toward the Product Goal. Each Increment is additive to all prior increments and thoroughly verified, ensuring that all Increments work together. In order to provide value, the Increment must be usable. The moment a Product Backlog item meets the Definition of Done, an Increment is born. Multiple Increments may be created within a Sprint. The sum of the Increments is presented at the Sprint Review. An Increment may be delivered to stakeholders prior to the end of the Sprint. The Sprint Review should never be considered a gate to releasing value.

The **Definition of Done** is a formal description of the state of the Increment when it meets the quality measures required for the product. The Definition of Done creates transparency by providing everyone a shared understanding of what work was completed as part of the Increment. If a Product Backlog item does not meet the Definition of Done, it cannot be released or even presented at the Sprint Review. Instead, it returns to the Product Backlog for future consideration.

The **Sprint Backlog** is composed of the Sprint Goal (why), the set of Product Backlog items selected for the Sprint (what), as well as an actionable plan for delivering the Increment (how). The Sprint Backlog is a plan by and for the Developers. It is a highly visible, real-time picture of the work that the Developers plan to accomplish during the Sprint in order to achieve the Sprint Goal.

The **Sprint Goal** is the single objective for the Sprint. Although the Sprint Goal is a commitment by the Developers, it provides flexibility in terms of the exact work needed to achieve it. The Sprint Goal creates coherence and focus, encouraging the Scrum Team to work together. The Sprint Goal is created during the Sprint Planning event and then added to the Sprint Backlog.