Scrum ensures transparency, inspection, and adaptation to enable a focus on continuous improvement, scope flexibility, team input, and delivering quality products. Scrum aligns with the values and principles of the Agile Manifesto, which focus on people, communications, the product, and flexibility.

This Cheat Sheet outlines the main principles of the scrum project management method.

Scrum: Agile software development manifesto

Scrum is a team approach to project management that aligns with the Agile Manifesto. The Agile Manifesto is an intentionally streamlined expression of the core values of agile project management.

“We are uncovering better ways of developing software by doing it and helping others do it. Through this work, we have come to value:

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

That is, while there is value in the items on the right, we value the items on the left more.”

Ron Jeffries, Jon Kern, Brian Marick, Robert C. Martin, Steve Mellor, Ken Schwaber, Jeff Sutherland, Dave Thomas.

Principles behind scrum and the Agile Manifesto

Scrum aligns with the values of the Agile Manifesto and the 12 Agile Principles. The 12 Agile Principles are a set of guiding concepts that scrum teams follow to be more lightweight, adaptive, nimble, flexible — agile — in all they do. These are the 12 principles:

> Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.
>
> Welcome changing requirements, even late in development. Agile processes harness change for the customer’s competitive advantage.
>
> Deliver working software frequently, from a couple of weeks to a couple of months, with a preference for the shorter timescale.
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> Business people and developers must work together daily throughout the project.
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> Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.
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> Face-to-face conversation is the most efficient and effective method of conveying information to and within a development team.
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> Working software is the primary measure of progress.
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> Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.
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> Continuous attention to technical excellence and good design enhances agility.
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> Simplicity — the art of maximizing the amount of work not done — is essential.
>
> The best architectures, requirements, and designs emerge from self-organizing teams.

The team regularly reflects on how to become more effective, then tunes and adjusts its behavior accordingly.

Scrum and the roadmap to value

Scrum is a framework. The roadmap to value is a high-level view of how scrum and common agile techniques can be used for developing your product. A product, as defined in the *Scrum Guide*, "…is a vehicle to deliver value. It has a clear boundary, known stakeholders, users or customers. A product could be a service, a physical product, or something more abstract."

The roadmap to value includes the following elements:

Product goal: The product owner identifies the product goal. The product goal is the long-term objective of your product, how it will support your company's or organization's strategy, and who will use the product. On longer product development efforts, revisit the product goal at least once a year.
Product roadmap: The scrum team (product owner, developers, and scrum master) and business stakeholders collaboratively create a product roadmap. The product roadmap is a high-level view of the product requirements, with a loose time frame for when you will develop those requirements. Identifying product requirements and then prioritizing and roughly estimating the effort for those requirements are a large part of creating your product roadmap. On longer product development efforts, revise the product roadmap at least twice a year.
In release planning: The product owner creates a release plan with the stakeholders and scrum team. The release plan identifies a high-level timetable for the release of a product. An agile product often has many releases, with the highest-priority features launching first. Create a release plan at the beginning of each release.
In sprint planning: The product owner, the scrum master, and the developers plan sprints and start creating the product within those sprints. Sprint planning takes place at the start of each sprint, where the scrum team determines the sprint goal, why it's important to the customer, and what can be done to achieve the sprint goal. The developers break down the work into specific tasks necessary to accomplish the sprint, which comprises the sprint backlog.
In the daily scrum: Each day, the scrum team spends no more than 15 minutes inspecting their progress toward the sprint goal and adapting the sprint backlog as necessary, adjusting the upcoming planned work. The developers can select whatever structure or techniques they want, as long as their daily scrum focuses on progress toward the sprint goal and produces an actionable plan for the upcoming work day.

In sprint review: At the end of every sprint, the scrum team demonstrates the sprint results or the product increment created during the sprint to the product stakeholders for feedback. The sprint review is an informal, collaborative working session to inspect progress toward the release and product goals. Based on the feedback from stakeholders, the product owner updates the product backlog.
The sprint retrospective: This is a meeting where the scrum team discusses how the sprint went and plans for improvements in the next sprint. Like the sprint review, you have a sprint retrospective at the end of every sprint.

Scrum accountabilities and other roles

Scrum mobilizes the entire product team around a specific goal that the organization wants to accomplish. Scrum teams include people with three roles or accountabilities:

Developers: This is the group of people who do the work to create a product. The term developer is a generic term referring to anyone with a skill needed to take an idea or requirement and develop it into something of value for the customer. It is not a shortened form of *software developer*. Someone who programs or writes code is only one example of a type of developer on a scrum team. Some scrum teams don't do anything related to software. Those skills are also development skills. These may include testing, designing, writing, editing, configuring, assembling, recording, and so on. Anyone else who has a hands-on role is a developer.
Product owner: This person is responsible for bridging the gap between the customer, business stakeholders, and developers. The product owner is an expert on the product and the customer's needs and priorities. The product owner works with the developers daily to help clarify requirements.
Scrum master: This person is responsible for supporting the developers, the product owner, and the broader organization. They clear organizational roadblocks and guide the integration of agile values and principles.

Two additional roles should be considered as part of the entire product team:

Stakeholders: Stakeholders are anyone who has an interest in the product. Stakeholders are not ultimately responsible for the product, but they provide input and are affected by the product's outcome. The group of stakeholders is diverse and can include people from different departments or even different companies.
Scrum mentor: A scrum mentor is someone who has experience enabling organizations to become more agile and can share that experience with a scrum team. The scrum mentor can provide valuable feedback and advice to new teams and to teams that want to perform at a higher level.

Scrum and other common artifacts

Scrum teams use three scrum *artifacts* (deliverables) for inspection and adaption, plus three other common agile practices to develop products. As your team implements its plan, check for these artifacts and practices:

Product goal: This is an elevator pitch, or a quick summary, to communicate how your product supports the organization's strategies. The product goal must articulate the outcomes for the product. The product goal is a scrum team's commitment at the highest level. The product backlog emerges from the product goal in whatever way is needed to achieve the product goal.
Product roadmap: The product roadmap is a high-level view of the product requirements, with a loose time frame for when you will develop those requirements. The product roadmap is a common agile practice but is not a scrum artifact. It is usually the initial, high-level view of what becomes the product backlog.
Product backlog: The full list of what is in the scope for your product, ordered by priority. After you have your first requirement, you have a product backlog.
Release plan: This is a high-level timetable for the release of value to the customer. The release plan is a common agile practice, and the approach is not prescribed by scrum, although release planning is inherently part of scrum.
Sprint backlog: This is the goal, user stories, and tasks associated with the current sprint.
Increment: This is the working product functionality at the end of each sprint.

Scrum events and other common activities

Scrum includes five essential events, and most scrum teams also participate in two common agile practices. These enhance efficiency and performance from the first day to the last day of your product development effort:

Product planning: This is the initial planning for your product. Product planning includes creating a product goal and a product roadmap and can take place in as little time as one day. Product planning is a common agile practice but is not a scrum event.

Release planning: This is where you set a release goal and plan the next set of product features to release and identify an imminent product launch date around which the team can mobilize. With agile product development, you plan one release at a time. Although release planning is referred to in scrum, it is a common agile practice but not an official scrum activity.

Sprint: A sprint is a short (usually one to two weeks in length), consistent, fixed length cycle of development in which the team creates potentially releasable product functionality for stakeholder feedback. Sprints, sometimes called iterations, typically last between one and four weeks. Sprints can last as little as one day but should not be longer than four weeks. The sprint length can change during the project, but velocity will be impacted by the duration change.

Sprint planning: Sprint planning is a meeting at the beginning of each sprint where the scrum team commits to a sprint goal. They also identify the requirements that support this goal and will be part of the sprint and the individual tasks it will take to complete each requirement.

Daily scrum: This is a 15-minute meeting held each day in a sprint. Here, scrum team members inspect their progress toward accomplishing the sprint goal and coordinate on accomplishing the day's priorities, stating what they completed the day before, what they will focus on the current day, and whether they have any roadblocks.

Sprint review: This is a meeting at the end of each sprint, introduced by the product owner, where the developers demonstrate the working product functionality they completed during the sprint.

Sprint retrospective: This is a meeting at the end of each sprint, where the scrum team discusses what went well, what could change, and plan how to make any changes.

Scrum organizations, certifications, and resources

The scrum community provides powerful services to help you find and develop your skills:

Scrum Alliance

The Scrum Alliance is a not-for-profit professional membership organization that promotes understanding and use of scrum. The alliance achieves this goal by promoting scrum training

and certification classes, hosting international and regional scrum gatherings, and supporting scrum user groups globally. Find a user group near you.

The Scrum Alliance offers a number of professional certifications:

- Certified ScrumMaster (CSM)
- Advanced Certified ScrumMaster (A-CSM)
- Certified Scrum Product Owner (CSPO)
- Advanced Certified Scrum Product Owner (A-CSPO)
- Certified Scrum Developer (CSD)
- Advanced Certified Scrum Developer (A-CSD)
- Certified Scrum Professional (CSP)
- CSP for ScrumMasters (CSP-SM)
- CSP for Product Owners (CSP-PO)
- CSP for Developers (CSP-D)
- Certified Team Coach (CTC)
- Certified Enterprise Coach (CEC)
- Certified Agile Leadership (CAL) (various)

Agile Alliance

The Agile Alliance is the original global agile community, with a mission to help advance the 12 Agile Principles and common agile practices, regardless of approach. The Agile Alliance site has an extensive resources section that includes articles, videos, presentations, and an index of independent agile community groups across the world.

Scrum Guide

The free Scrum Guide is available in more than 30 languages. It can be found both online and in PDF formats available for download.

Scrum website

Scrum.org provides tools and resources for scrum practitioners to deliver value using scrum through assessments and certifications, including:

- Professional Scrum Master I, II & III (PSM)
- Professional Scrum Product Owner I, II & III (PSPO)
- Professional Scrum Developer (PSD)
- Scaled Professional Scrum (SPS)
- Professional Scrum with Kanban (PSK)
- Professional Agile Leadership (PAL)

Pattern Languages of Programs

Pattern Languages of Programs (PLoP) are methods of describing design practices within fields of expertise and often have conferences organized around them for shared learning. ScrumPLoP publishes practical patterns that have been used successfully with organizations to get started with and become successful with scrum.

Scaled Agile Framework

The **Scaled Agile Framework (SAFe)** is a knowledge base for implementing agile practices and scrum at scale. (SAFe is a registered trademark of Scaled Agile Inc.)

Large-Scale Scrum

Large-Scale Scrum (LeSS) is a scrum scaling method that provides two different frameworks known as basic LeSS and LeSS Huge.

Scrum is improving the world

While scrum gained momentum in software development, its roots trace back to Edward Deming and other quality improvement initiatives. Jeff Sutherland and Ken Schwaber, known as the co-inventors of scrum, built on Quality pioneer efforts, invented scrum as a free framework for use worldwide.

The IT industry, particularly in software development, quickly adopted scrum because of its struggles to manage frequently changing requirements. Practitioners found agile frameworks like scrum to be a superior approach for addressing changing customer needs and technologies.

Today, nearly every industry is experiencing rampant change driven by evolving technology, markets, regulations, customers, and more.

Scrum is now used in multiple industries throughout the world, from education to construction, to health care, pharmaceuticals, automobile and airplane manufacturing, retail, and more. Businesses, from new startups to non-profits to established Fortune 500 giants, are adopting scrum. Products include cars that receive updates every other week, hardware manufacturing, and pandemic-driven hospital bed management.

Families and individuals are even using scrum to help accomplish their personal and family financial, relationships, wedding, and even vacation goals. Across the board, scrum is changing the way the world works.

If you’re wondering if scrum can help you, here is the criteria for understanding whether scrum is a good fit for you:

You're in a situation with limited time or funding.
You have a complex problem to solve.
Your solution requires innovation.
You're dealing with a dynamic, frequently changing environment.
Reaching your goal requires teamwork.
You need a goal or outcome-focused approach.
You're working with a distributed team (or even a non-distributed team).
Your work can be decomposed.
You need to be able to pivot quickly.
You want early empirical feedback.

About This Article

This article is from the book: Scrum For Dummies

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