



## Core Scrum

### What is Scrum?

Scrum is the leading Agile product development framework. It provides a foundation and path to delivering business goals in a collaborative, sane, and enjoyable manner. When was the last time you put "collaborative, sane, and enjoyable" in the same sentence with "business goals"? You may not remember unless you already use Scrum, but with Scrum you can, indeed, enjoy your work again!

Scrum was created with software development in mind, but many other industries apply this framework to their own worlds. In fact, education, marketing, operations, and more are adopting Scrum and enjoying the benefits it brings them.

### How did Scrum originate?

The concept that would become Scrum was first introduced to the world in 1986 by Hirotaka Takeuchi and Ikujiro Nonaka in the "New New Product Development Game" (Harvard Business Review, January/February 1986). They defined their approach as a "flexible, holistic product development strategy" and proposed it would result in fast, flexible product development. They called it the holistic or "rugby" approach because, much like in a rugby match, one cross-functional team passes the "ball" back and forth on the way to the "goal line." This was, and continues to be, in stark contrast to approaches that progress in a rigid, linear fashion.

### Scrum Principles

#### **The Agile Manifesto**

In 2001, 17 individuals gathered in the Wasatch mountains of Utah to find common ground around Agile. After much skiing, talking, relaxing, and eating, they arrived at four common values that led to the development of the Agile Manifesto.



## Common Values from the Agile Manifesto

Scrum is an Agile framework and, as such, is consistent with the values of the Agile Manifesto.

### **Individuals and interactions over processes and tools**

Scrum is a team-based approach to delivering value to the business. Team members work together to achieve a shared business goal. The Scrum framework promotes effective interaction between team members so the team delivers value to the business.

Once the team gets a business goal, it:

- Figures out how to do the work
- Does the work
- Identifies what's getting in its way
- Takes responsibility to resolve all the difficulties within its scope
- Works with other parts of the organization to resolve concerns outside their control

This focus on team responsibility in Scrum is critical.

### **Working software over comprehensive documentation**

Scrum requires a working, finished product increment as the primary result of every sprint. Whatever activities take place during the sprint, the focus is on the creation of the product increment. A Scrum team's goal is to produce a product increment every sprint. The increment may not yet include enough functionality for the business to decide to ship it, but the team's job is to ensure the functionality present is of shippable quality.

### **Customer collaboration over contract negotiation**

Scrum is a framework designed to promote and facilitate collaboration. Team members collaborate with each other to find the best way to build and deliver the software, or other deliverables, to the business. The team, especially the product owner, collaborates with stakeholders to inspect and adapt the product vision so the product will be as valuable as possible.

### **Responding to change over following a plan**

Scrum teams make frequent plans. For starters, they plan the current sprint. In



In addition, many teams create longer-term plans, such as release plans and product roadmaps. These plans help the team and the business make decisions. However, the team's goal is not to blindly follow the plan; the goal is to create value and embrace change. In essence, the thought process and ideas necessary for planning are more important than the plan itself.

A plan created early is based on less information than will be available in the future so, naturally, it may not be the best plan. As new information is discovered, the team updates the product backlog. That means the direction of the product likely shifts. This continuous planning improves the team's chances of success as it incorporates new knowledge into the experience.

Scrum teams constantly respond to change so that the best possible outcome can be achieved. Scrum can be described as a framework of feedback loops, allowing the team to constantly inspect and adapt so the product delivers maximum value.

## Scrum Values

All work performed in Scrum needs a set of values as the foundation for the team's processes and interactions. And by embracing these five values, the team makes them even more instrumental to its health and success.

### **Focus**

Because we focus on only a few things at a time, we work well together and produce excellent work. We deliver valuable items sooner.

### **Courage**

Because we work as a team, we feel supported and have more resources at our disposal. This gives us the courage to undertake greater challenges.

### **Openness**

As we work together, we express how we're doing, what's in our way, and our concerns so they can be addressed.

### **Commitment**

Because we have great control over our own destiny, we are more committed to success.



## Respect

As we work together, sharing successes and failures, we come to respect each other and to help each other become worthy of respect.

As an organization applies Scrum it discovers its benefits. At the same time, it sees how these values inherently contribute to the success of Scrum and understands why they are both needed, and bolstered, by Scrum.

## Scrum Framework

Scrum begins when customers need a product. The Scrum framework guides the creation of that product, with a focus on value and high visibility of progress. Working from a dynamic list of the most valuable things to do, and using the Scrum framework, a Scrum team brings that product from an idea to life. The Scrum framework is consistent across products and that is what makes it so useful. You don't have to modify the framework depending on the product; you use one across all.

## Scrum roles

A Scrum team has three roles:

- **Product Owner** -- holds the vision for the product
- **ScrumMaster** -- helps the team best use Scrum to build the product
- **Development team** -- builds the product

The product is built incrementally in a series of short time periods called **sprints**. Sprints have a defined length, typically from one to four weeks. Most teams find that short sprints work better than long ones. During each sprint, the Scrum team builds and delivers a product increment, which is a shippable subset of the product. Each product increment is a recognizable, visibly improved, operating version of the product, meeting defined acceptance criteria and built to a level of quality called **done**.

## Scrum artifacts

Scrum features three tangible artifacts:

- **Product increment** -- an integrated, shippable *subset* of the product
- **Product backlog** -- the list of ideas for the product, in order of priority



- **Sprint backlog** -- the detailed plan for development during the next sprint

The team displays its plans and progress so that all team members and stakeholders can always see what the team is accomplishing.

## Scrum activities

Finally, Scrum includes five activities, or meetings:

- Product backlog refinement
- Sprint planning
- Daily Scrum
- Sprint review
- Sprint retrospective

Scrum roles, artifacts, and activities work together within a Scrum cycle. Let's take a look at each of these in more detail.

## Scrum Roles

Every Scrum team has three roles, as stated above: product owner, ScrumMaster, and development team. The individuals in these roles work together to bring a product from an idea to life.

### Product Owner

The product owner is the member of the Scrum team charged with maximizing the value of the team's work. The product owner holds the product vision and works closely with stakeholders, such as end users, customers, and the business to cultivate and nurture a community around the product. They facilitate communication between the team and the stakeholders and ensure the team is building the right product. They describe what should be built and why, but not how.

To fulfill the role, the product owner:

- Decides what goes into the product backlog and, equally important, what does not
- Maintains the product backlog and orders the items in the backlog to deliver the highest value



- Works with the team and the stakeholders to continuously improve the quality of the product backlog and everyone's understanding of the items it contains
- Decides which product backlog items to ask the team deliver in the current sprint
- Decides when to ship the product, with a preference toward more frequent delivery.

The product owner may be supported by other individuals but must be a single person to maintain clarity of the vision and priorities.

## ScrumMaster

The ScrumMaster is a servant leader, helping the rest of the Scrum team progress. The ScrumMaster keeps the Scrum team productive and learning. They must have a good understanding of the Scrum framework and the ability to train others to use it. The ScrumMaster has three core responsibilities:

### *Coach the team*

The ScrumMaster helps the entire team perform better. They help the product owner understand how to create and maintain the product backlog so the project is well defined and work flows smoothly to the team. They also work with the whole Scrum team to determine the definition of done. The ScrumMaster coaches the team on how to execute the Scrum process, helping them learn and use the framework and find and implement technical practices so they can reach done at the end of each sprint.

### *Keep the team moving forward*

As a servant leader, the ScrumMaster fosters the team's self-organization and then sees that distractions and impediments, or roadblocks, to the team's progress are removed. Impediments may be external to the team, like lack of support from another team, or they could be internal, like the product owner not knowing how to prepare a proper product backlog. They may also facilitate regular team meetings to ensure that the team progresses on its path to done.

### *Help everyone understand Scrum*

The ScrumMaster ensures that Scrum is understood and in place, both inside and outside the team. They help people outside the team understand the process, as well as which interactions with the team are helpful and which are not. The ScrumMaster



helps everyone improve to make the Scrum team more productive and valuable.

### **Development team member**

The development team does the actual work of delivering the product increment. The team is a cross-functional group of professionals who, among them, have all the necessary skills to deliver each increment of the product. All team members should be available to the team and the project full time.

The product owner makes an ordered list of what needs to be done. The development team members then forecast how much they can do in one sprint and self-organize to get the work done, deciding among themselves who does what to produce the new product increment.

## Scrum activities and artifacts: The Scrum cycle

Every Scrum cycle uses a series of activities to produce the tangible deliverables, or artifacts. Let's go through the cycle and see how activities and artifacts are integrated.

### **Product backlog (artifact)**

How do you know what needs to be done? By reviewing the Scrum artifact called the product backlog. This is an ordered list of ideas for the product, which can come from the product owner, team members, or stakeholders. A description and estimate of effort complement each product backlog item.

The product backlog is ordered to maximize the value delivered by the Scrum team. The development team's work comes from the product backlog, and nowhere else. Every feature, enhancement, bug fix, documentation requirement—every bit of work the team does—comes from a product backlog item.

The product backlog may begin as a large or short list. It may be vague or well defined. Typically it begins short and vague and becomes longer and more defined as time goes on. Product backlog items slated for implementation soon will be "refined," which means they will further clarified, defined, and split into smaller chunks. Though the product owner is responsible for maintaining the product backlog, the development team helps produce and update it.

## Product backlog refinement (activity)

Product backlog items are often large and general in nature, and they can come and go as priorities change. Because of this fluid environment, product backlog refinement is an ongoing activity throughout a Scrum project. When you refine the product backlog, you:

- Confirm the order of the product backlog items
- Remove or demote items that no longer seem important
- Add or promote items that come up or become more important
- Split larger items into smaller items
- Merge smaller items into larger items
- Estimate items
- Identify which items are sprint-ready

Product backlog refinement is an excellent way to prepare for upcoming sprints. During this process, you give special attention to selecting items coming up for the next sprint. Things to consider include:

- Each item for the sprint should represent an increment of "business value."
- The development team needs to be able to build each item within a single sprint.
- Both the stakeholders and the entire Scrum team need to be clear on what is intended.

Depending on the nature of the product, other skills and inputs may be needed. That's why product backlog refinement is really a responsibility of all team members, not just the product owner.

## Sprint planning (activity)

Each sprint begins with a time boxed meeting called sprint planning. In this meeting, the Scrum team selects and understands the work to be done in the sprint.

The entire team attends the sprint planning meeting. Working from the product backlog, the product owner and the development team members discuss each item and come to a shared understanding of that item and what is required to complete it consistent with the current definition of done. The recommended time for the sprint planning meeting is two hours or less per week of sprint duration. Because the meeting is time boxed, the success of the sprint planning meeting depends on the quality of the product backlog going in. This is why product backlog refinement is so



important.

In Scrum, the sprint planning meeting has two outcomes:

1. A forecast of what work will be completed in the sprint
2. A plan for accomplishing the work

*A forecast of what work will be completed in the sprint*

The product owner, who decides what to do, presents ordered product backlog items to the development team, and the whole Scrum team collaborates to review and understand the work.

The number of product backlog items to take on in the sprint is completely up to the development team. The team considers the current state of the product increment, the team's past performance, its current capacity, and the ordered product backlog. Neither the product owner nor anyone else can add work onto the development team. Often, but not always, the sprint is given a specific and measurable shared goal, called the sprint goal. This goal, which summarizes why the sprint is happening, helps everyone focus on the essence of what needs to be done.

*A plan for accomplishing the work*

The development team then collaborates to decide how to produce the next product increment to the definition of done. They need to be confident of completing the work during the sprint. Work to be done in the early days is broken down into small units of one day or less. Work to be done later may be left in larger units to be broken down later.

The product owner is available during this part of the meeting to answer questions and resolve misunderstandings but has no part in determining how the work gets done.

*Result of sprint planning*

At the end of sprint planning, the Scrum team has a common understanding of the quantity and complexity of work to be accomplished during the sprint and can, within a reasonable range of circumstances, expect to complete it. The team then commits to each other to accomplish it.

To sum up the sprint planning meeting:

*The product owner decides what to do*

- Presents "what to do," using the product backlog items
- Answers questions and resolves misunderstandings about the product backlog items

*The development team decides how much to take on and how to accomplish it*

- Considers and discusses product backlog items with the product owner
- Ensures a common understanding of them
- Selects a number of items they forecast they can accomplish
- Creates a sufficiently detailed plan to be sure they can accomplish the items

The resulting list of things to do is the "sprint backlog."

### **Sprint backlog (artifact)**

The sprint backlog is the list of refined product backlog items chosen for development in the current sprint, together with the team's plan for accomplishing the work. It reflects the team's forecast of what work can be completed. Once the sprint backlog is established, the development team begins work on the new product increment.

### **Sprint**

During the sprint, the development team self-organizes to produce the product increment defined by the sprint backlog. Self-organizing means that the members of the development team determine how to work together to best produce the product increment according to the organization's standards and the team's definition of done.

### **Product increment (artifact)**

Every sprint produces a product increment, the most important Scrum artifact. A product increment is the "goal line" for each sprint and, at the end of the sprint, it must:

- Be of high enough quality to be given to users
- Meet the Scrum team's current definition of done
- Be acceptable to the product owner

### *Additional indicators of progress*

Scrum requires that people within and outside the team can see what the team is doing. And though delivering the product increment is the most powerful way to create this transparency, the Scrum team might also create other optional but helpful artifacts. These might include burn-down charts and task boards, to make sure the status of the project is understood by other teams and stakeholders.

### *Definition of done*

When the product increment is delivered, it needs to be "done" according to a shared understanding of what "done" means. This definition is different for every Scrum team, and as the team matures, the definition of done will expand and become more stringent.

The definition of done must always include the notion that the product increment is of high enough quality to be shippable. In other words, the product owner could choose to release it immediately. The latest product increment includes the functionality of all previous product increments and is fully tested so that all completed product backlog items continue to work together.

## **Daily Scrum (activity)**

The development team uses the Daily Scrum meeting to ensure that they are on track for that sprint. They hold the meeting at the same time and place every day. The meeting should be short and time boxed for a maximum of 15 minutes. During the meeting, each development team member gives three bits of information:

- What he or she has accomplished since the last Daily Scrum
- What he or she plans to accomplish between now and the next Daily Scrum
- What is impeding progress

Team members might ask brief clarifying questions and get brief answers, but they don't go into depth during the Daily Scrum. Instead, subsets of the development team often meet right after the Daily Scrum to work on any issues that have come up.

The Daily Scrum is not a reporting event. It's a communication meeting within the development team that helps ensure that all team members are on the same page and moving forward. Though interested parties are welcome to come and listen to

the Daily Scrum, only the Scrum team members, including the ScrumMaster and product owner, speak during this meeting. Based on what comes up in the meeting, the development team reorganizes the work as needed to accomplish the sprint goal, if one has been established, and the product increment.

The Daily Scrum leads to transparency, trust, and better performance. How? The daily check-in provides immediate recognition and resolution of problems and promotes the team's self-organization and self-reliance.

### **Sprint review (activity)**

At the end of each sprint, the Scrum team and stakeholders review the resulting product increment. This meeting is called a sprint review and should be time boxed one hour per week of the sprint. So if the sprint lasts two weeks, the recommended timebox for the sprint review is two hours.

The main point of discussion is the product increment completed during the sprint. Since the stakeholders are those who have a "stake" in the results, it's a good idea, and helpful too, for them to attend this meeting. During the meeting, the team members look at where they are and collaborate on how they might move forward. Everyone has input at the sprint review. And naturally, the product owner makes the final decisions about the future, updating the product backlog as appropriate.

Teams will find their own way to conduct the sprint review. Some common components of the meeting include:

- An overview of the product increment
- A demonstration of the product increment
- A discussion of what team members observed during the sprint, or perhaps product ideas that came to mind
- A discussion about the state of the product backlog, possible completion dates, and what might be done by those dates
- An update of the product backlog

### **Sprint retrospective (activity)**

At the end of each sprint, the Scrum team meets for the sprint retrospective, which is again timeboxed for about an hour per week of the sprint duration. During the sprint retrospective, the team members review how the process went, including the



intrapersonal relationships and the tools used. They talk about what went well and not so well, and they identify potential improvements. Then they come up with a plan for improving those things in the future. Remaining true to the Scrum framework, the Scrum team improves its own process versus relying on others to provide direction.

## Rinse and repeat

The Scrum cycle repeats for every sprint. In short:

- The Scrum team members (product owner, development team, and ScrumMaster) collaborate to create a series of product increments during timeboxed intervals called sprints
- Each product increment meets the product owner's acceptance criteria and the team's shared definition of done
- The team works from a product backlog
- Each sprint begins with sprint planning to produce the sprint backlog, which is a plan for the sprint
- The team self-organizes to execute the development, using Daily Scrum meetings to coordinate and ensure the best possible product increment
- The team performs product backlog refinement to prepare for the next sprint's planning meeting
- The team ends the sprint with the sprint review and sprint retrospective, reviewing the product and the process

## Ready to put Scrum into practice?

Now you have an overview of the core elements of Scrum that you can use to deliver complex projects in a productive, sane, and enjoyable manner. It's a proven framework, but this is just a start. Applying the framework takes practice and trial and error. However, the more you work with it, the better you'll be. And Scrum Alliance is with you every step of the way, with Advocacy, Community, and Education that can make your Scrum journey easier, fun, and rewarding.

— Scrum Alliance Core Scrum v2014.08.15



## Core Scrum translations

Translations of the original Core Scrum document have been undertaken by CSCs, CSTs, and other Scrum community experts. We will work to update these translations. Here we list existing translations and honor the volunteers who are doing the work.

Please visit the Scrum Alliance website at <https://www.scrumalliance.org/why-scrum/core-scrum-values-roles> to view the original Core Scrum document in the following languages.

**Chinese** - Daniel Teng, Bill Li, Jackson Zhang, Joseph Yao, Mike Li

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