

The Scrum Handbook



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Scrum: the world's most popular Agile software development framework



Scrum was originally started by software development teams many decades ago and has now reached high levels of popularity among multiple industries (technology, services,

financial, etc.) and some of the major companies in the world (Google, Microsoft, Yahoo!, Cisco, GE, Salesforce), living proof of its quality and efficiency.

It uses its simplistic approach to disarm projects' complexity and targets customer satisfaction as the priority, demonstrated through continuous delivery of product added value.

It has its foundations in agile principles, applying an empirical process that employs continuous product delivery throughout an iterative and incremental approach that optimises the development efficiency and decreases the overall project risk. This, allied with Scrum's capability to adapt to change and constant feedback from the customer often results in increased customer satisfaction, enhanced delivery predictability, reduced project risk and faster time to market for products.

In this handbook, we will guide you on the Scrum philosophy, it's definition, its roles, events and artefacts.



Scrum framework benefits:

- maximise development efficiency
- empower the team to reach high levels of productivity
- support stakeholders in creating valuable products
- continue product innovation
- ease of adaptation and problem solving
- decrease hierarchy complexity and bureaucracy
- increase collaboration between project SHs
- product value-based prioritization
- maximise ROI

Scrum vs. traditional project management

There are plenty of project management methodologies, so what makes Scrum so special and how can we compare it to traditional project management frameworks? Unlike the rigidity of traditional project management where the scope is fixed, Scrum helps in evolving the product using an iterative and incremental life cycle approach.



Traditional project development

The focus is given to the project scope, cost, planning and completion. Often the project starts with the project sponsors coming up with a rough idea of the desired outcome. A project chart with dates, milestones and dependencies is created, detailed estimations are all set up front and a locked hierarchical control speeds down the process. Because of the heaviness of the process, changes are difficult to manage, delays are common and the risk of project failure is often high. Even in many success situations, the project may be finished, yet the customer expectations are left unmet.



Scrum framework

Very simple, very clear, with its focus on bringing value to the customer. Unlike the traditional approach, Scrum encourages work to be executed in iterations, each one having a small shippable product increment as its desired outcome. It's ONE cross-functional team with the goal of bringing the product backlog into reality. The product backlog is managed by the product owner and the scrum process is facilitated by the Scrum Master. There is a big focus on adapting to constant change and bringing value to the customer. Scrum aligns with a project's natural momentum by welcoming change and allowing changes to happen even in late phases of the project.

Scrum pillars

At the core of Scrum's empirical process are the three pillars: transparency, inspection and adaptation.

Three Scrum pillars



Transparency

A common language should be used by all managing the outcome

- All team members are aware of their role as well as of their colleagues
- The Scrum process is clear to everyone (artefacts, events, etc.)
- Information gaps are minimised or completely eliminated
- The team is clearly aligned with the product's Definition of Done

Inspection

Inspect frequently so that possible deviations are made aware

- The project status is often inspected, making sure everything is going well
- Problems or impediments are made aware early to the team
- Inspection can be done by everyone in the project
- Apart from the product itself, also processes and practices can be inspected
- Although inspection is beneficial and necessary, too much can become detrimental and it is not recommended

Adaptation

Deviations which have been identified should be quickly fixed

- If any change appears, the team quickly adapts to it
 - Sprint review plays a major role on this pillar execution
 - Other events (Sprint planning, Daily Scrum and Retrospective) are also excellent opportunities to 'inspect and adapt'

How does it work?

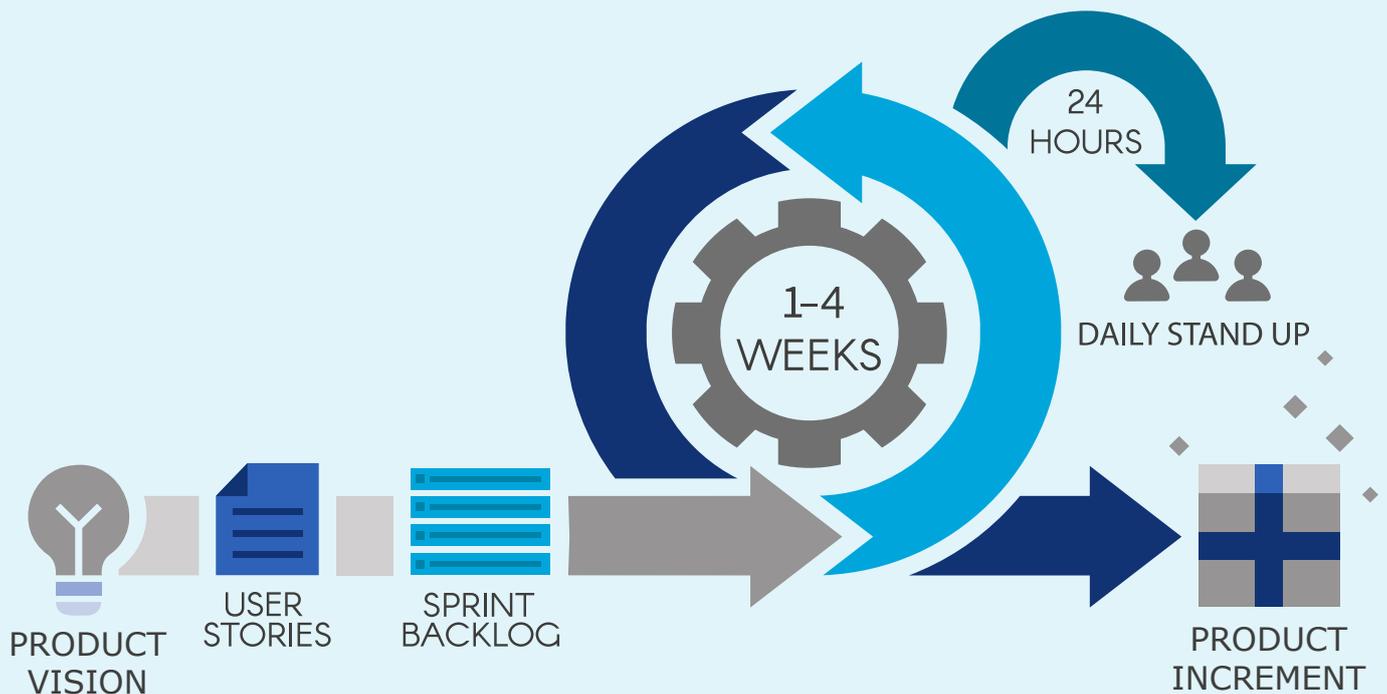


The product is enhanced through continuous increments, called sprints, carried out by cross-functional teams. These short duration iterations (1-4 weeks) occur one after the other, are time-boxed

and never extended. At the beginning of each sprint, a cross-functional team commits to deliver a set of product items prioritised by the product owner. During the sprint, the team focuses on the development of those items. Every day the team members attend a stand-up meeting – the daily Scrum, with the purpose of inspecting the sprint progress and making any adjustment if necessary.

At the end of each sprint, the product features that have been built are then shown to all stakeholders in a ceremony called Sprint review. Here the working product increment (integrated, tested and potentially shippable) is demoed to all the stakeholders and feedback is gathered, resulting in a team learning which then translates into future innovation/improvement of the product.

Scrum Process



Meet the team



Product Owner

The product owner is one of the main stakeholders in the Scrum framework. PO is ultimately responsible for the business value, meaning he/she possesses the overall vision of the product and is responsible for planning the features to be developed. The PO prioritises the work to be done into a 'wish list' – a set of user stories called product backlog, continuously re-prioritising, refining and communicating it to the development team. Because of this, it is commonly said that the PO represents the voice of the customer and is usually responsible for communicating with the stakeholder about project progress and possible problems.



The development team

The development team is a self-organising and cross-functional group usually made of seven people, give or take. Its goal is to transform the PO vision into reality and they do it by releasing product features every iteration. As the experts, they are the ones who decide how to turn the backlog into the end product by creating and executing all activities necessary to complete the sprint goal; team members often have specialised skills (programming, QA, architecture, UX, etc.) and they all adhere to the same norms and rules, making this Scrum process a standard practice.



The Scrum Master

The SM ensures Scrum best practices are used by helping the group to learn them (if it is a less experienced team) or improve them (assuming the team possess Scrum maturity). SM is often referred to as a servant of the team, meaning he/she should coach the team, protect it from outside interference, remove any impediments and 'enforce' Scrum ceremonies and processes.

Scrum events

1. Sprint Planning

This is a meeting facilitated by the Scrum Master that takes place at the beginning of each sprint and is attended by the whole Scrum team. Its purpose is to align with the product owner on the sprint goal, review the highest-priority PBIs to achieve the sprint goal and to evaluate the team's capacity. A more experienced team will have a good notion of how much work they can commit to based on its own analysis and past iterations. Once the sprint capacity is clear, the team commits to the highest-value items selected by the PO.



3. Sprint Review

This is the time when the teams show the increment to the stakeholders and celebrate its achievements at the end of each sprint. The stakeholders and the Scrum team collectively inspect the product increment. The product owner aligns the audience on the PBIs that were completed as well as the ones that were not finished. This meeting is a key element of the 'inspect and adapt' practice, in which the stakeholders provide feedback on the product increment.

2. Daily Scrum

Once the sprint starts and during each day until the sprint completion, the team gathers for the daily Scrum, also known as the daily stand-up. It's usually a short, light meeting that takes place at an appointed time and that is attended by the whole development team. They use to synchronise on the progress of the sprint goal and identify any obstacles or impediments.

During the daily scrum, each team member answers the following questions:

- What did you do yesterday?
- What will you do today?
- Are there any impediments in your way?

4. Sprint Retrospective

The sprint retro is used as a self-analysing process where the team inspects itself and creates actions to improve its performance. It's a time-boxed event where the team members should reflect on the last sprint and focus on what worked and what needs to be improved in order to increase the product quality. Actions are often created so that the changes can be reflected on the following iterations.

Scrum artefacts



1.

Product Backlog

The product backlog is essentially a list containing all the features, functionality, requirements, fixes, etc. to be included in the product during future releases. It is owned and prioritised by the product owner.

2.

Sprint Backlog

The sprint backlog gathers the selected items from the product backlog which the team will implement during the sprint. It reflects the functionalities that the Product Owner sees as most valuable and which will be the next product increment to be developed by the development team.

3.

Potentially shippable product feature

By the time the team finishes the sprint backlog and the product owner “approves” the completed features, there is a chance for this new usable increment to be released.

Expert tips

Why are refinements important?

Mariona Bassols, Product Owner



One of the fundamental factors of work as a Product Owner is to have a clear product vision and its corresponding user experience. In my opinion, they go hand in hand.

You may have a very good idea – it could be sensational regarding business/requirements – but if you don't know who has to use the application, you are lost.

Therefore, the development team is crucial to implement this objective or this vision, and it's based on the simple act of finding the balance between the implementation cost and the incremental value that the product will get.

For this reason, it's essential that 10% of the development time is spent on the refining meetings as they are a key aspect of knowing if the functionality to be developed makes sense; you present a functionality that it has to be estimated and implemented, and only with the team's reaction do you know if it's on the right track. The estimation time and the discussion of how it's going to be implemented allow us to have a unique product vision and to have team cohesion because they are who know how to do it, considering their inputs and their analysis of potential impediments or technical limitations to carry it out.

For me, the refinements are a rewarding experience, because it's an inspection and adaptation time (one of many in Scrum); it's something that has to be done and you don't say how. You only say the what, and the how is the gift. I like to see how the team explores your ideas; they question you, put you in a bind, and give you use cases that you may not have thought about, and the same time, they give you answers and solutions.

Once it is added to the Sprint Backlog, the team is comfortable developing it, and the resulting increase is more than a functionality, it's a product treated with affection. This is because there's been a dialectic and development transparency. The result is a crucial added value in the delivery, fundamental to customer satisfaction.

A process of continuous improvement and learning

Joffrey Zehnder, Principal Consultant, PO and Agile Trainer



One of the main benefits that Scrum and Agile bring along is the ability to react to changing circumstances of the project or the company. Business and the end customer are always

at the centre of the attention, along with ensuring that testing, development, requirements, security, business and operations are all working together instead of functioning independently from each other. Introducing agile in your company is a process of continuous improvement and learning. Agile also involves a change of culture. If you start with agile, but hold on to your current ways of working, probably in a waterfall mode, it just won't work. You need to change your mindset as well.

Transformation inside out

Robert Avellaneda, Agile Developer



Do you ask people to understand why they do things? The same happens with Agile too. It's more than a set of rules and frameworks – it's about a mindset.

Every day we make decisions based on observances to commit our objectives... and this is pragmatism! One of the Scrum foundations. Being pragmatic means we accept we cannot control everything, but we can do something with what happens. Based on our observances, we adapt to the environment like living organisms that adapt to outside changes by modifying their internal behaviour and structure.

The same way a human being can have a blood test to test their body's health, we can observe how healthy our project is by measuring the value of the product/service we are providing our customers.

Having an overall project vision and executing on small incremental steps will help you achieve your end goal. By using an iterative process, we can check that we are getting closer and closer to our bigger goal. If an error occurs, we can apply preventive measures, readjusting towards the product vision.

Another key element of the Scrum approach is its people-oriented focus. This approach is essential to the overall project success.

By empowering the Scrum team, and therefore each individual, it encourages self-organisation, improves individual competence and enables learning and cross-communication.

Don't forget about the soft facts

Christine Salzeller, Scrum Master



Scrum in Project Management is used for projects where the development process is not predictable as the underlying topics in the projects might be very

complex or hard to handle. If used successfully, it results in products balanced in business value, time, costs and quality as well as self-motivated employees who bring their ideas to work and give a bit more than expected. And happy customers, of course. Based on agile principles, teams work in small groups (3 to 9 people) and are self-organised in managing their work, but they are mostly dependent on the product owner and other stakeholders to understand business needs. From my Scrum Master point of view, I see the development team at the centre of success and my first intention is to provide trust and empower the development team - but not only them; it is about all individuals working together. Individuals are the key to success. Don't make people stop thinking, follow the agile manifest "individuals and interactions over processes and tools", make them communicate clearly and frequently with each other and take their opinions seriously and find ways forward together. Clear visions, values, openness to new or different ideas, transparency, trust and working together at the same eye level will make people more motivated, aligned and initiative. The list of soft facts is not final here, but it is a good starting point to try in order to get you on the road to success. But don't forget about the hard facts as well, such as budgets and timelines or milestones, and balancing them with the soft facts.

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