

SCRUM

Scrum definition

Scrum is a lightweight framework that helps people, teams and organizations generate value through adaptive solutions for complex problems. (Scrum.org, 2021)

The scrum solves the problem of a traditional methodology which is the Waterfall. Because in waterfall approach, in the beginning, both the developers and the client have already decided on the overall features of the product. So, at the end, if there are any mistakes or changes that the client wants, it will require the developer to start all over again. So scrum is best suited in a relatively changing environment as this approach focus on delivering the business value in the shortest time. The problems should be solved in small parts as quickly as possible and it delivers a potentially shippable product increment after each sprint. (Majewski, 2019)

Successful use of Scrum depends on people becoming more proficient in living five values: Commitment, Focus, Openness, Respect, and Courage.

These people behind the scrum are called the Scrum Team.

Scrum Team

Scrum team is a small team of people usually 10 or fewer working together to deliver the required product increments. It is composed of one Product owner, one scrum master, and developers that have different tasks and responsibilities.

A product owner is someone who represents the client or the stakeholders. He or she will know what they want and is also responsible in managing the product backlog. He/she has the authority to make the decisions.

A scrum master is the one who helps the team to understand the scrum theory and put it into practice. He/she coaches and motivates each member so that they will be kept committed to the business and remove any impediments to the Scrum team's progress.

The developers are the people who create usable increment each sprint. They know how to organize and manage their own work. And they 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; and,
- Holding each other accountable as professionals.

Scrum events and artifacts

SCRUM FRAMEWORK

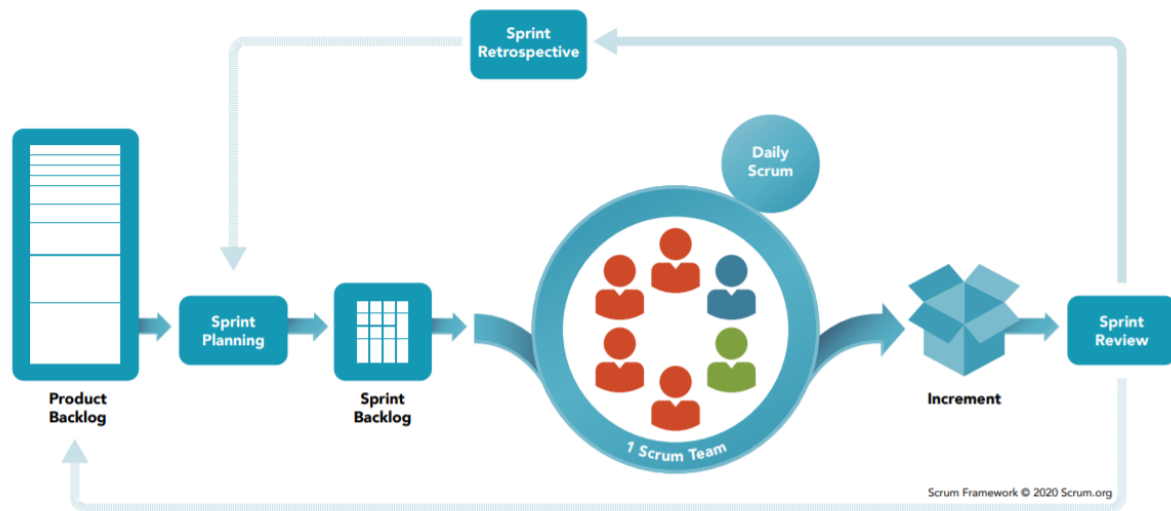


Figure 1. Official scrum framework

So this is the official scrum framework. This whole process is called a sprint. Sprints are the heartbeat of Scrum, where ideas are turned into value. They are fixed length events of one month or less to create consistency. A new Sprint starts immediately after the conclusion of the previous sprint.

We have what we call the scrum events, which are necessary to achieve the product goal, and these are happening within the Sprint. These Scrum events are the Sprint planning, Daily Scrum, Sprint Review, and the Sprint Retrospective.

Sprint planning is the start of the sprint. Here we layout the work to be performed for the Sprint. In this event, the team must address the following questions;

Why is this Sprint valuable?

What can be Done this Sprint?

How will the chosen work get done?

The developers will then select from the product backlog some items that they plan to work in the current sprint. These items chosen by the developers are what we call the sprint backlog.

Product backlog, sprint backlog and also the increment are what we call the scrum artefacts. Each of these artefacts has commitment to ensure that it provides information that enhances transparency and focus against which progress can be measured:

- For the Product Backlog it is the Product Goal.

- For the Sprint Backlog it is the Sprint Goal.
- For the Increment it is the Definition of Done.

Product backlog is basically an ordered list of what is needed to improve the product. And this is updated regularly.

Product Backlog						
#	User stories	Acceptance criteria / Definition of Done	Story points	Value points	Value for money points	Status
1	As a developer, I want to make a sitemap for my web application so that I can get a bird's eye view of the web application that I'm doing.	The developer makes a sitemap that has a database with atleast one read and one write functionality, and explain the created sitemap.	1	55	55.00	Done
2	As a developer, I want to create a wireframe for my web application so that I could have a visual representation of the web pages.	The developer makes a wireframe for the web application that she is creating, and explain the created wireframe.	1	55	55.00	Done
3	As a developer, I want to research on how to implement the scrum in developing a web application so that I could efficiently apply the scrum and I will not be lost in the process of doing the sprints.	The developer could discuss Scrum and how will she apply it in developing a web application, and detailing the scrum events and artefacts.	2	55	27.00	Done
4	As a developer, I want to create the scrum artefacts(Product backlog, Sprint Backlog, Increment) for the first sprint so that I could have the documents needed as I go along.	The developer makes the scrum artefacts necessary for the first sprint.	2	55	27.00	Done

Figure 2. Product backlog for sprint 1

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.

Sprint Backlog					
#	User stories	Tasks	Assignee	Estimated efforts (hrs)	Status
1	As a developer, I want to make a sitemap for my web application so that I can get a bird's eye view of the web application that I'm doing.	Research how to make a sitemap.	Developer 1	1 hr	Done
		Plan the content of the web application.	Developer 1	1 hr	Done
		Create a sitemap using any available software.	Developer 1	1 hr	Done
		Create a video explaining the sitemap.	Developer 1	1 hr	Done
2	As a developer, I want to create a wireframe for my web application so that I could have a visual representation of the web pages.	Research how to make a wireframe.	Developer 1	1 hr	Done
		Plan the layout of each web pages.	Developer 1	1 hr	Done
		Create a wireframe using any available software.	Developer 1	1 hr	Done
		Create a video explaining the wireframe.	Developer 1	1 hr	Done
3	As a developer, I want to research on how to implement the scrum in developing a web application so that I could efficiently apply the scrum and I will not be lost in the process of doing the sprints.	Research about scrum.	Developer 1	24 hrs	Done
		Create a pdf file that contains the discussion about scrum and how it is used in developing a web application as a project for CMSC 126.	Developer 1	24 hrs	Done
		Create a video discussing the scrum.	Developer 1	5 hours	On going
4	As a developer, I want to create the scrum artefacts(Product backlog, Sprint Backlog, Increment) for the first sprint so that I could have the documents needed as I go along.	Research on how to make the scrum artefacts.	Developer 1	1 hr	Done
		Create the Product Backlog	Developer 1	1 hr	Done
		Create the Sprint Backlog	Developer 1	1 hr	Done

Next event is the daily scrum. This is basically a meeting, for the developers of the scrum team. It usually takes 15 minute. To reduce complexity, it is held at the same time and place every working day of the Sprint.

Next we have the increment, this is one of the scrum's artefacts. It is a potentially shippable product. For the first sprint, our increment is the sitemap, wireframe, and this discussion about the scrum. Later on, this could be a web page, or a certain feature in the website. And these increments must meet the Definition of Done as we can see in the product backlog. If the acceptance criteria or the Definition of done is met, we have our 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 and will be added in the next sprint.

Next event, is the Sprint review. The purpose of the Sprint Review is to inspect the outcome of the Sprint and determine future adaptations. The Scrum Team presents the results of their work to key stakeholders and progress toward the Product Goal is discussed.

Next is the Sprint Retrospective. The purpose of the Sprint Retrospective is to plan ways to increase quality and effectiveness. Here, the Scrum Team discusses what went well during the Sprint, what problems it encountered, and how those problems were (or were not) solved. The Sprint Retrospective concludes the Sprint. It is time boxed to a maximum of three hours for a one-month Sprint. For shorter Sprints, the event is usually shorter

References

Scrum.org, (2021). *Scrum Guide*. <https://www.scrum.org/>

Visual Paradigm, (2021). *What is Scrum Team? - Scrum Guide*. <https://www.visual-paradigm.com/scrum/what-is-scrum-team/#:~:text=A%20Scrum%20Team%20is%20a,the%20same%20norms%20and%20rules>

Majewski, M., (2019, March 12). Top 6 Software Development Methodologies. <https://blog.planview.com/top-6-software-development-methodologies/>