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Department of MCA

Topic: AGILE ARTIFACTS

Course

23CAE718
AGILE SOFTWARE
DEVELOPMENT

Unit I

AGILE CONTEXT –
ARTIFACTS

Elective

II Semester /
I MCA



ARTIFACTS AGILE SOFTWARE DEVELOPMENT

Scrum Artifacts

What is Scrum Artifacts?

The 7 Scrum Artifacts

1. Product Backlog

2. Sprint Backlog

3. Product Vision

4. Sprint Goal

5. Definition of Done (DoD)

6. Product Increment

7. Burndown Chart



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Scrum Artifacts

Scrum Artifacts provide key information that the **Scrum Team** and the **stakeholders** need to be aware of for understanding the **product under development**, the **activities done**, and the **activities being planned** in the **project**. The following artifacts are defined in Scrum Process Framework

- Product Backlog
- Sprint Backlog
- Burn-Down Chart
- Increment

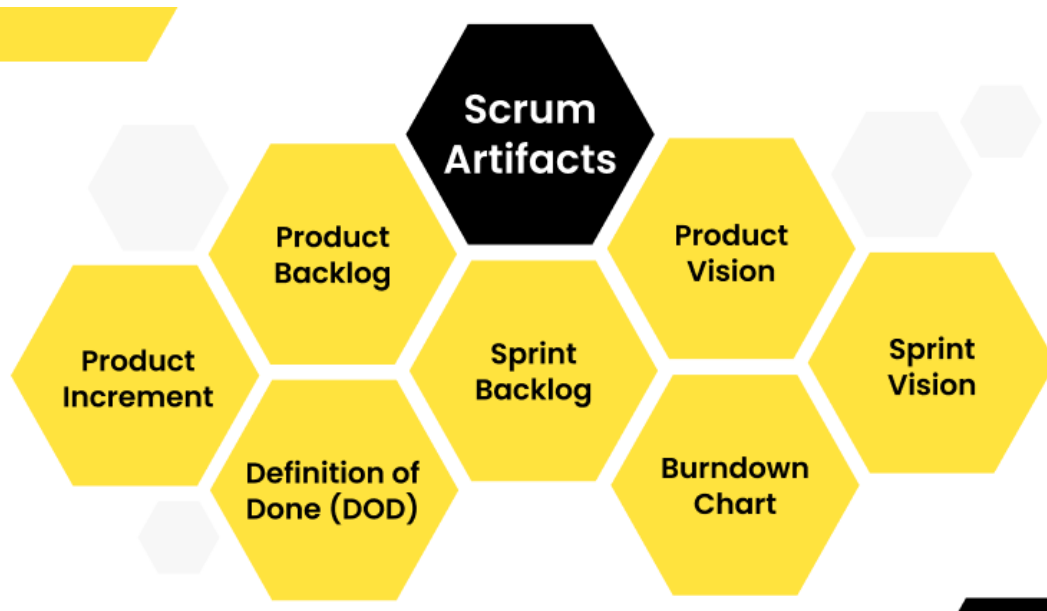




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Agile Project Artifacts

At the core of Scrum lies several essential artifacts that serve as building blocks for successful development. Among these artifacts, the [Product Backlog](#), Sprint Backlog, and Increment stand out as pivotal elements that help teams plan, execute, and deliver valuable product increments.



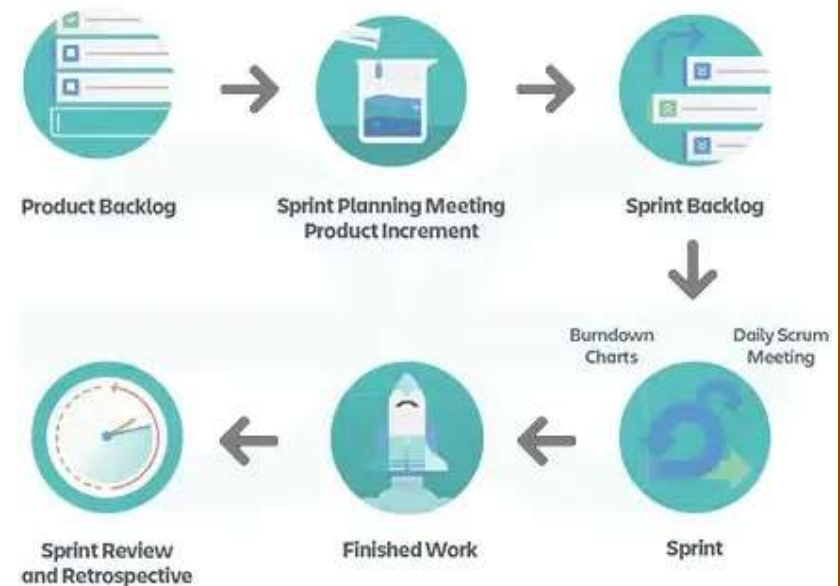


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What is Scrum Artifacts?

Scrum artifacts are like information tools in the Scrum way of working. They help the team and everyone interested in the project to know what's happening with the product. They show what needs to be done, what's currently being worked on, and what's already finished. These artifacts make it easy for everyone to understand how the project is going and what's happening at each step. There are 7 scrum artifacts.

The 7 Scrum Artifacts



The 7 Scrum Artifacts



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1. Product Backlog

The [Product Backlog](#), as used in Scrum, is an ordered and dynamic list of all the tasks required to deliver a product. It is a crucial document that acts as the only reliable source of information about the features and requirements of the product for the Scrum team.

The Product Backlog is the initial and arguably the most crucial artifact in Scrum. It serves as a dynamic and prioritized list of all the work that needs to be done for a product.

It encompasses features, enhancements, bug fixes, and any other tasks that contribute to the product's development.



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The Product Backlog

An important list of all the features, improvements, bug fixes, and other requirements that are used for creating a product is known as the product backlog. It is used for the whole range of possible tasks the development team could perform to produce the final product.

The product backlog consists of three distinct types of items:

- 1. User Stories:** These are high-level summaries of features, narrated from the viewpoint of the end-user of the product.
- 2. Bugs:** These are issues that have surfaced and require fixing, as identified by the [product owner](#).
- 3. Tasks:** Assignments given to the Scrum team for completion.

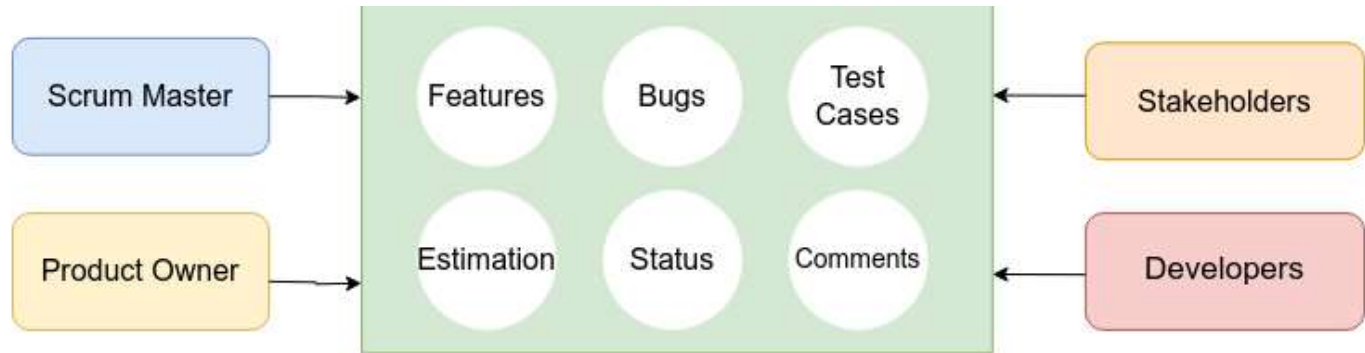


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The Product Backlog

The Product Backlog items should be properly explained and understood by the development team to enable efficient planning and setting priorities, even though they do not always need to be fully calculated or defined upfront. During backlog improvement sessions, the development team may offer estimates for backlog items to help the product owner in making well-informed decisions about setting priorities.

It includes **user stories, epics, or any other product backlog items** along with their priorities and estimates.



Product Backlog



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2. Sprint Backlog

*The tasks or work items that the Scrum team commits to finishing within a designated time frame, known as a sprint, which lasts for two to four weeks, are listed in the **Sprint Backlog**. It consists of all the tasks required to accomplish the sprint goal and serves as the team's plan for the sprint.*

The Scrum team creates the Sprint Backlog at the sprint planning meeting, which usually takes place at the start of each sprint. In this session, the team works together to identify user stories or backlog items from the Product Backlog and divides them into manageable tasks that can be finished in the sprint.

The sprint backlog is like a task board, usually divided into sections that show the stages of work. These sections often have these titles:



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2. Sprint Backlog

1.To-Do: These are tasks that haven't started yet.

2.Doing: This is where the actual work is happening.

3.To Verify: These are tasks that are finished but are waiting for another team member to check them.

4.Done: This means the task is complete, and no more work is needed.

The work items or tasks that the Scrum team has committed to finishing during a sprint are listed in the Sprint Backlog, which is a dynamic list. It acts as the team's execution strategy, offering transparency, focus, and flexibility to guarantee that the sprint goal is met on schedule.

It includes the user stories or tasks selected for the Sprint, along with their acceptance criteria, estimates, and the plan for completing the work.



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2. Sprint Backlog

	Task in Progress	Task Completed	Task Closed
User Story 1		Task Task Task	Task Task Task
User Story 2	Task	Task Task Task	Task
User Story 3	Task Task Task Task	Task	Task

Sprint Backlog





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3. Product Vision

The Product Vision in Scrum acts as a roadmap or a long-term goal of a project/product. It serves as a symbol for the overall purpose of the product under development and gives the team members focus and direction. The Product Vision is also known as the high-level description of what the product aims to provide and the value it hopes to deliver to its users or customers. It should be clear, short, and easily understandable by all collaborators involved in the project.



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3. Product Vision

What is Product Vision





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3. Product Vision

- The [product owner](#), who is in charge of representing the interests of the collaborators and making sure the product satisfies their needs, usually develops a product vision.
- To present a fascinating vision for the product, the product owner works with customers to understand their needs, market trends, and business objectives.
- The needs and priorities of stakeholders may change according to the time, new information may become available, or the market may change, all of which could cause the Product Vision to change.
- To make sure the Product Vision stays current and in line with the project's overall goals, it is crucial for the product owner to constantly evaluate and improve it.



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4. Sprint Goal

*A **Sprint Goal** is a clear statement that outlines the objectives of the Scrum team for a given time frame known as a sprint, which typically lasts between two and four weeks. It gives the team's work during the sprint direction and focus, directing them toward a single goal.*

- Usually, the Sprint Vision defines the specific goal or outcome that the team desires will be achieved by the end of the sprint.
- It must be clear, quantifiable, and achievable in the given sprint time.
- During the sprint planning meeting, the Scrum team works to develop the Sprint Vision, receiving feedback from the product owner and other participants.
- To make sure that everyone gets the hang of the goals and expectations of the sprint, it is smoothed and finalized before the start of the sprint.



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5. Definition of Done (DoD)

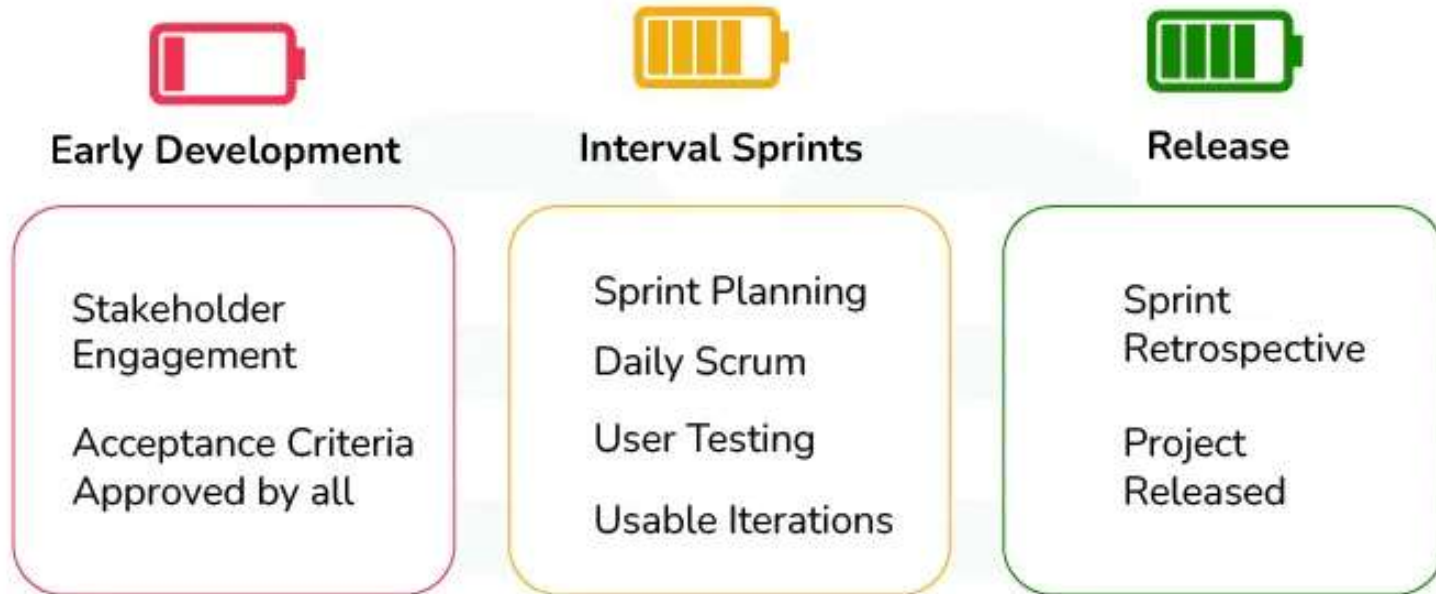
A Scrum team uses the [Definition of Done \(DoD\)](#), which functions similarly to a checklist, to make sure that a task, user story, or other piece of work is finished and satisfies the team's quality standards. It acts as a common understanding among team members regarding what constitutes "done" for a given task.

- The Definition of Done serves primarily as a guide for expectations regarding the quality and thoroughness of work items.
- It facilitates an understanding of the requirements that must be satisfied for a task or user story to be considered release-ready by the team and stakeholders.
- The team and stakeholders evaluate whether each completed task or user story satisfies the Definition of Done during the Sprint Review. If something doesn't fit the requirements, it's not finished and needs to be adjusted before it can be released.



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5. Definition of Done (DoD)



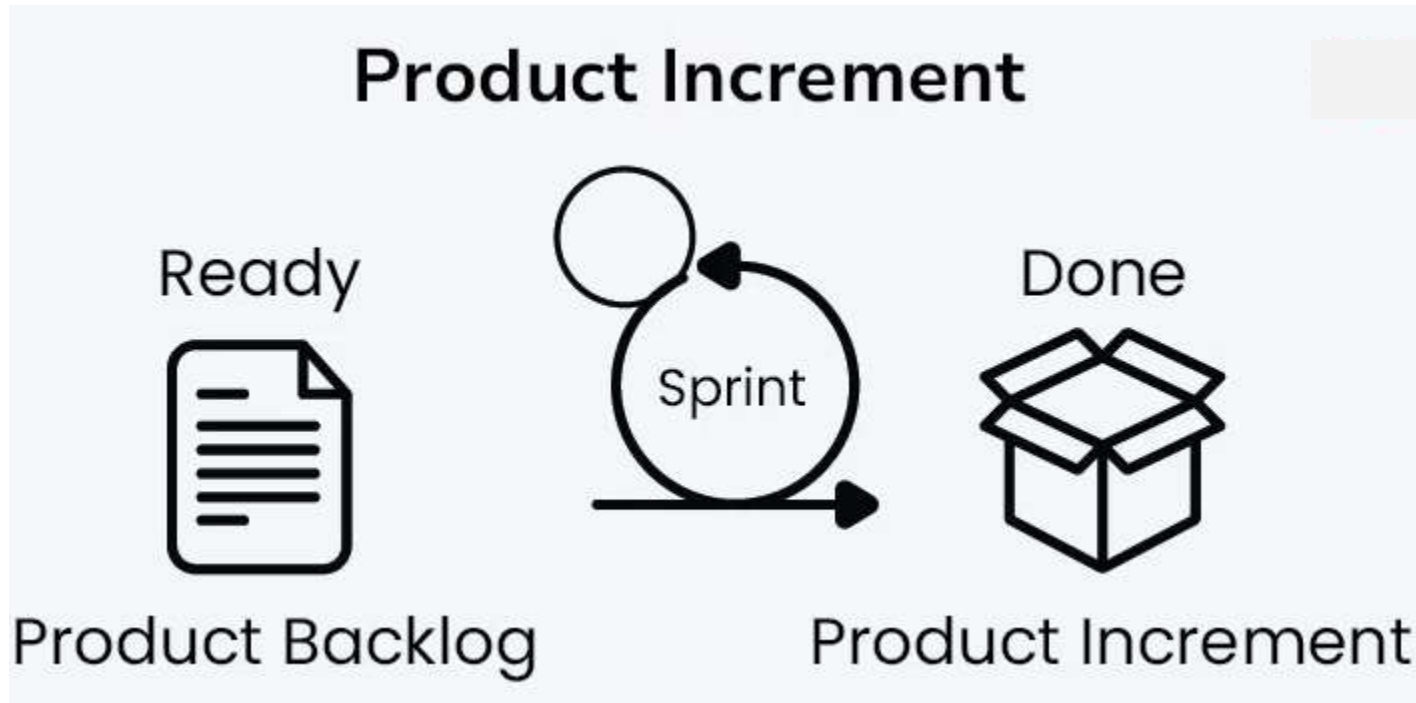
Defination of Done



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6. Product Increment

*The development team produces a physical, usable, and possibly releasable version of the product during a Sprint in Scrum, which is known as the **Product Increment**. It is a collection of all the features, improvements, and user stories that were finished and put to the test throughout the Sprint.*





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6. Product Increment

- The Product Increment is an end-user-useable, connected, and integrated version of the product, not just a collection of different features.
- It satisfies the Definition of Done and is potentially releasable, which means that customers or stakeholders may receive it if they so desire.
- By emphasizing producing a uniform and useful product, the Product Increment promotes teamwork and integration. In addition to ensuring that every team member works toward the same objective of providing value to the customer, it encourages cross-functional collaboration.

It includes all the features, enhancements, and fixes completed during the Sprint, providing a tangible and usable portion of the product.



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7. Burndown Chart

A **Burndown Chart** is a visual that shows the amount of work that a team has finished over a given time frame, typically within a Scrum Sprint. Comparing the amount of work that needs to be done with the time allotted, helps the team determine whether they are on track to meet their objectives.





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7. Burndown Chart

- As tasks are completed, the graph “**burns down**” to zero.
- The team's progress is reflected in the Burndown Chart, which is updated frequently, sometimes even daily. The team may identify trends and modify their strategy as necessary to enhance their performance in upcoming Sprints by monitoring their progress over time.

Conclusion

These artifacts are related to one another and provide information. The [product vision](#), for instance, directs the creation of the product backlog, which influences sprint planning and done definition, ultimately influencing the final product increment. These are the fundamental scrum artifacts, but other tools and artifacts may be used by the needs of the team and the particular project. Scrum projects must be managed and used effectively for these artifacts to be successful.



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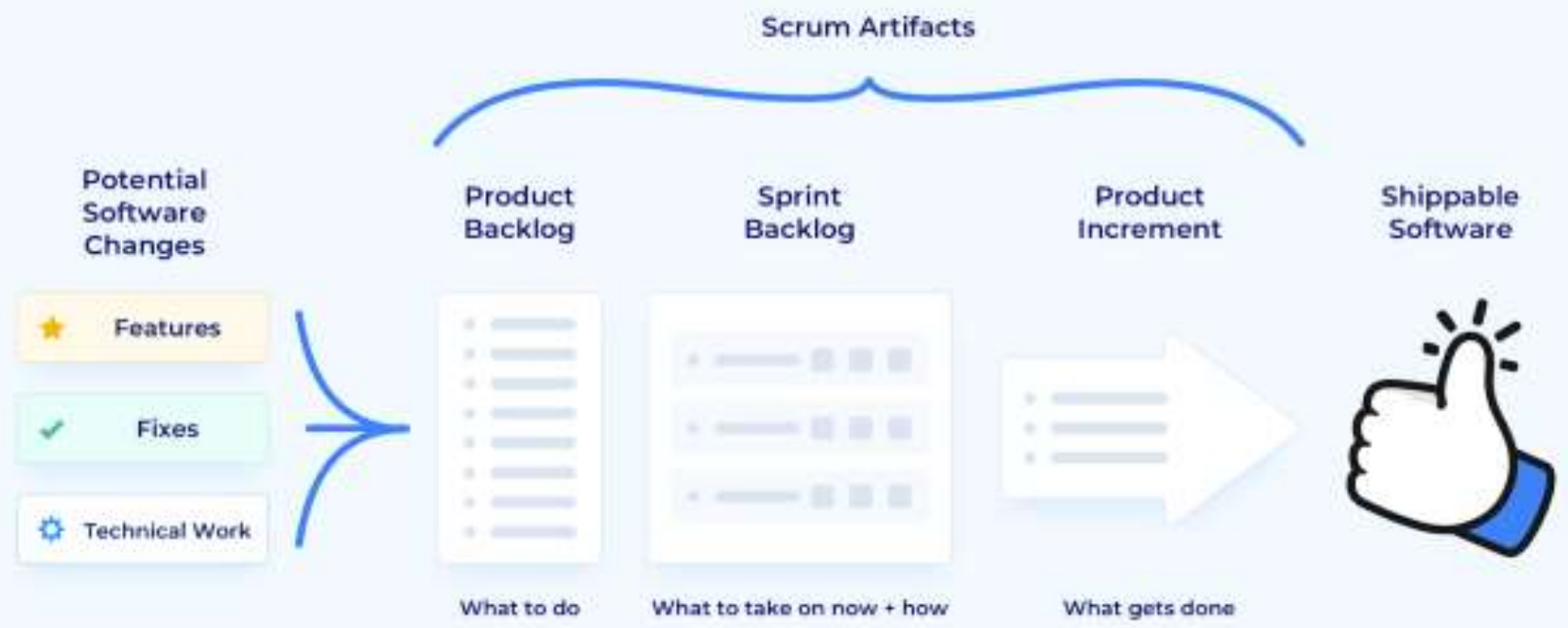
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THE 3 SCRUM ARTIFACTS





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Artifact	Commitment
<u>Product Backlog</u>	Product Goal
<u>Sprint Backlog</u>	Sprint Goal
<u>Increment</u>	Definition of Done



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1. Introduction to the Product Backlog

2. Product Backlog Items

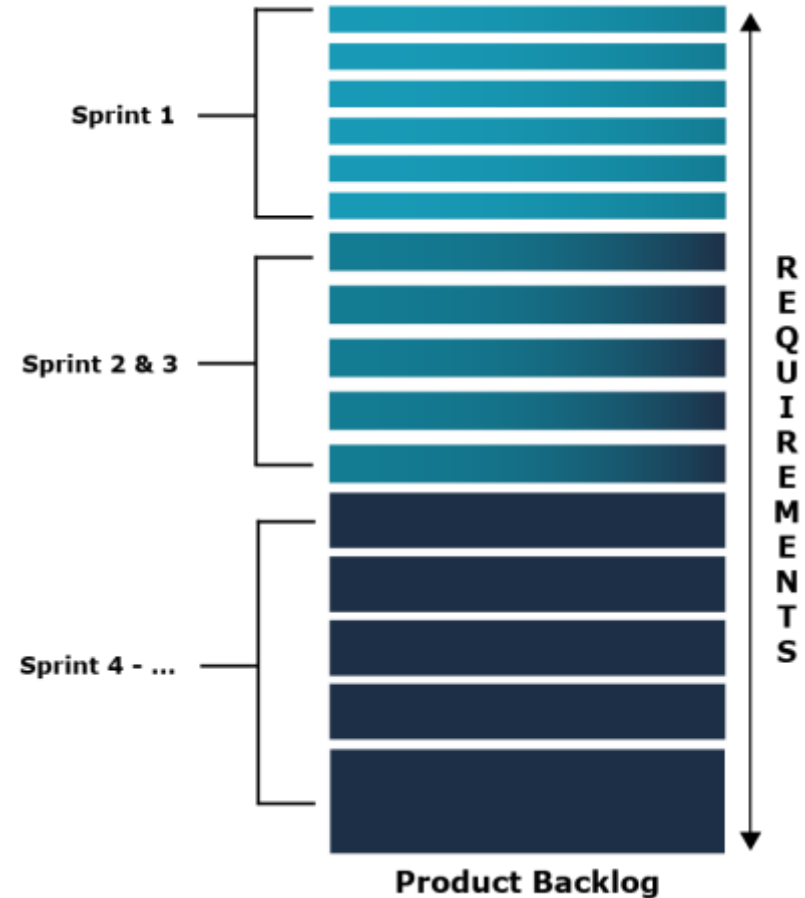
3. Product Goal

4. Product Backlog Refinement

The Product Backlog consists of:

- **Product Backlog items (PBIs)** - each of which represents something that needs to be done.
- **A Product Goal** - that describes the Scrum Team's current long-term objective for the product.

Single
Transparent
Current
Ordered





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1. Introduction to the Sprint Backlog

2. The Sprint Goal

3. Using Sprint Backlogs Effectively

4. Sprint Backlog Antipatterns

- **The Sprint Goal** which describes the objective for the Sprint.

Why are we doing this Sprint?

- **A set of Product Backlog items (PBIs) selected for the Sprint.**

Which PBIs will be addressed in this Sprint?

- **An actionable plan** for how the team will deliver the work and achieve the Sprint Goal.

How will we achieve our Sprint Goal?

highly-visible
real-time picture



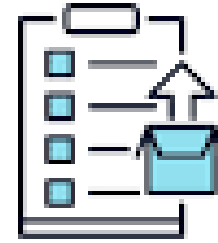


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1. Introduction to the Increment

2. The Definition of Done

3. Myths about the Increment



Increment

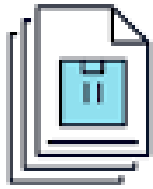
Scrum Teams create products. These products can be a physical product for sale, a service or even something abstract.

- products for sale to the public, such as a mobile application or hair dryer
- products delivered to people within the Scrum Team's organization, such as an internal software application, marketing collateral or the results of scientific research
- Producing an Increment every Sprint is important because it provides the Scrum Team an opportunity to get feedback, test hypotheses and change course, if necessary.

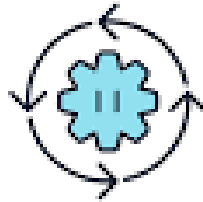


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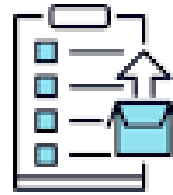
SCRUM ARTIFACTS



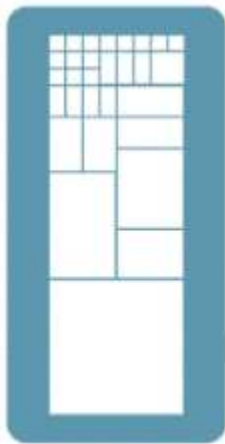
Product Backlog



Sprint Backlog



Increment



Product Backlog



Sprint Backlog



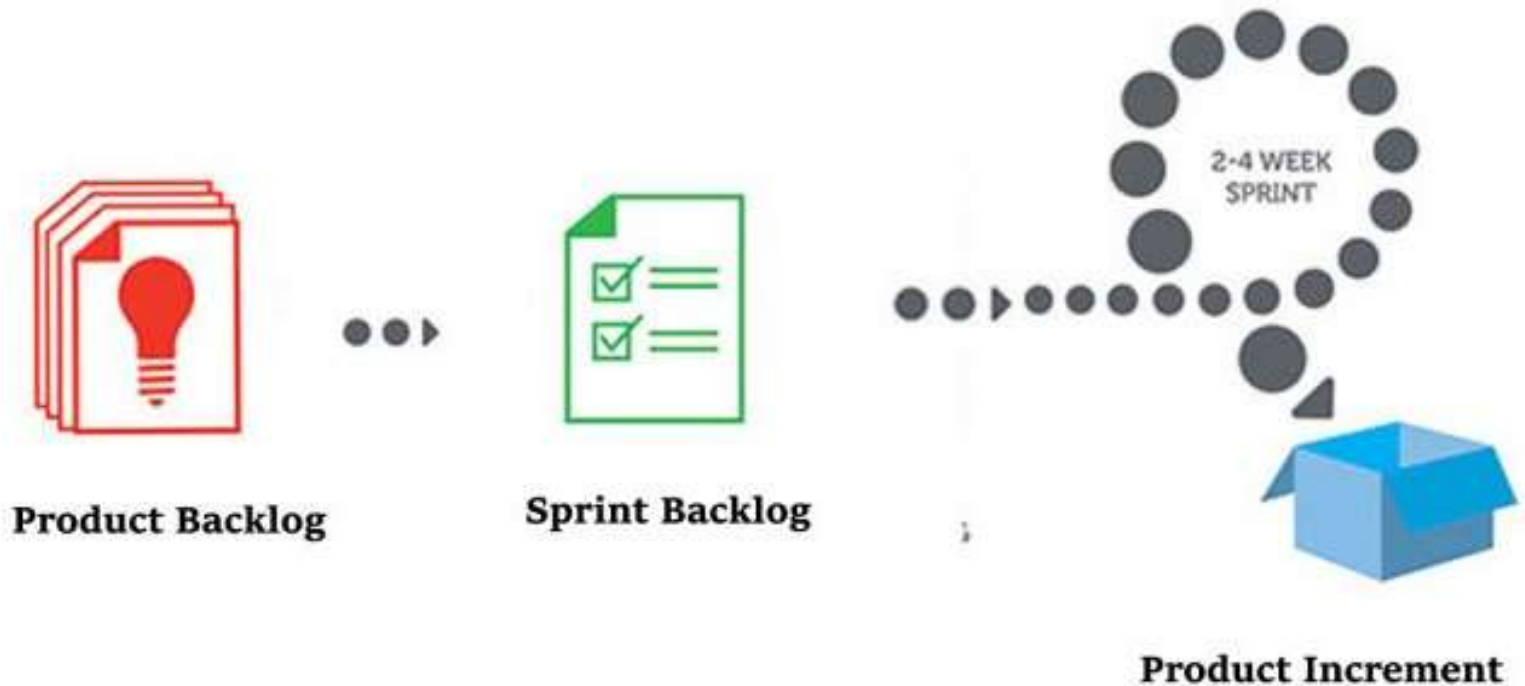
Increment



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1. Increment Backlog

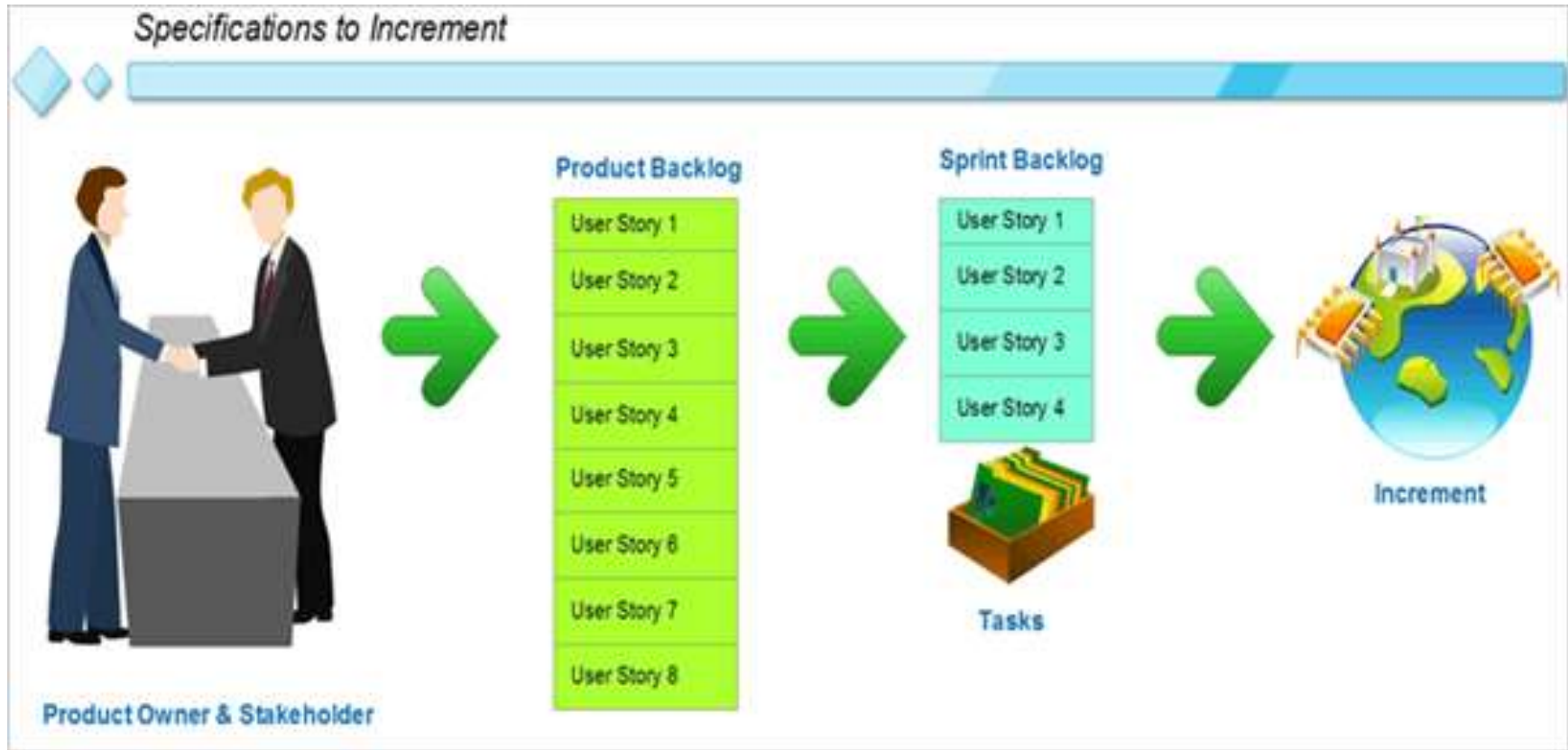
Scrum Artifacts





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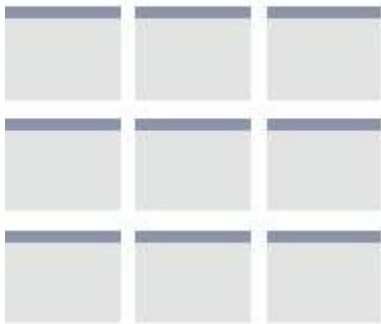
Backlog items



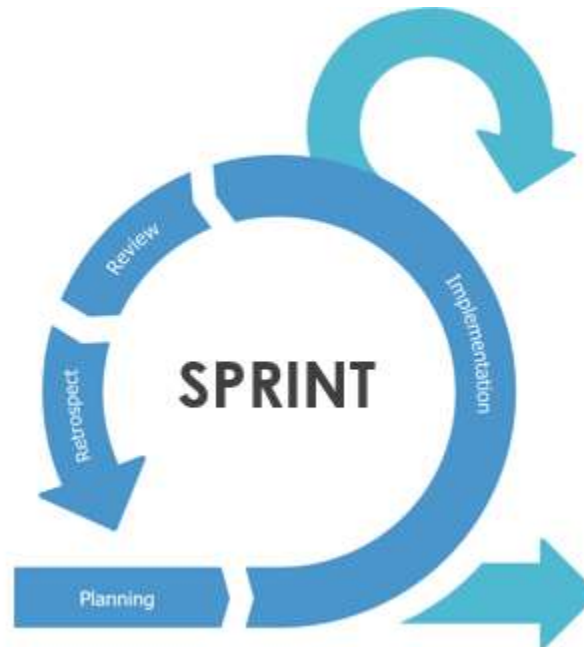


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Product Increment



Product Backlog



Done



Product Increment



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- In conclusion, the scrum artifacts of the product backlog, sprint backlog, and Increment are essential elements that enable teams to collaborate effectively, deliver value incrementally, and adapt to changing requirements.
- These artifacts serve as the backbone of Scrum, supporting teams in their journey to develop high-quality products that meet user needs and market demands.
- Understanding and effectively utilizing these artifacts is key to harnessing the full potential of the Scrum framework.
- To manage the creation and collaboration of these artifacts you need a [project management software](#) like [Orangescrum](#). It enables you to easily create product backlog, sprint backlog, generate insights and metrics, save and share planning reports in a single platform.



References

Text Books

1. Ken Schawber, Mike Beedle, “Agile Software Development with Scrum”, International Edition, Pearson.
2. Robert C. Martin, “Agile Software Development, Principles, Patterns and Practices”, First International Edition, Prentice Hall.

Web Resources

- ❑ <https://blog.orangescrum.com/understanding-3-most-important-agile-project-artifacts.html>



Q



*Thank
you*