

SCRUM FOUNDATIONS ELEARNING TRANSCRIPT

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SCRUM THEORY AND VALUES

SCRUM THEORY (05:47)

Scrum (n): A framework within which people can address complex adaptive problems, while productively and creatively delivering products of the highest possible value.

This definition is from the [Scrum Guide](#)^{*}, the official document created and regularly updated by Scrum's co-creators, Jeff Sutherland and Ken Schwaber. In this video, we will explain that definition and describe the underlying theory of Scrum.

Scrum is described as a process framework, rather than a complete process for building products. One important distinction is that Scrum is intentionally incomplete. It does not specify all of the steps required to build a product. Instead, it describes the framework within which a variety of processes and techniques can be deployed.

The Scrum framework consists of Scrum Teams and their associated roles, events, and artifacts. Each of these core components has a few simple rules, and there are simple rules describing the relationship and interaction between the components. Anything not described by those components and rules is not part of the framework. The Scrum Team decides which processes and techniques to use within the framework.

If the team or the organization were to decide to remove or alter any of the components or their rules, they are no longer using Scrum. Scrum exists only in its entirety, and each of the core components and their associated rules serve a specific purpose.

The second part of the definition describes something called a complex adaptive problem.

To understand that, let's look at a spectrum. On one end of the spectrum, we will place problems that are simple, predictable, and static, or unchanging. On the other end, we'll place problems that are complex, unpredictable, and adaptive, or always changing.

Most professionals are familiar with how to address problems at the left end of this spectrum. Since these are predictable problems, we're able to create a detailed plan. The plan might have many steps and dependencies, but if the system is predictable, the plan will progress without any surprises, or the need to change things along the way. This approach is known as defined process control, which means that we define a specific process for every step along the way. This works well when things are predictable.

When the things are more complex and unpredictable, this approach is not very effective. One of the most frequently cited books on this topic is called "Process Dynamics, Modeling, and Control" by Bobatunde Ogunnaike and W. Harmon Ray. In this book, the authors explain:

"It is typical to adopt the defined ... approach when the underlying mechanisms by which a process operates are reasonably well understood. When the process is too complicated for the defined approach, the empirical approach is the appropriate choice."



Ogunnaike and Ray are telling us that the defined approach doesn't work when things are complex and adaptive, and that we should instead use something called empirical process control, so let's explore what that means.

An empirical approach is one that is based on observations and evidence. Empiricism is the central idea behind the scientific method — that we can find out what is true through experiments with concrete, observable results.

In order to make good observations, an empirical process has three pillars: Transparency, Inspection, and Adaptation. Scrum is based on empirical process control, and so significant aspects of Scrum are designed to provide Transparency, Inspection, and Adaptation.

To create Transparency, Scrum's events and artifacts are visible to all of those responsible for their outcomes.

Organizations using Scrum frequently inspect Scrum artifacts and progress towards a Sprint Goal to detect undesirable variances. They balance the frequency of inspection so it doesn't get in the way of the work, but still provides sufficient opportunities to course correct.

If, during inspections, anything is determined to be outside of the goals of the effort, the process, plans, or product are adapted. The adaptation is made as soon as possible to optimize for a better outcome.

To summarize, Scrum is a lightweight framework made up of a few roles, events, artifacts, and their rules, that is simple to understand. However, since it relies on empirical process control to address complex adaptive problems, it is difficult to master.

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SCRUM VALUES

For an individual, team, or organization to realize the benefits of Scrum, the structural components of the framework are an important, but incomplete, factor. The components of the framework are the visible, logical system of Scrum. Since Scrum is meant to be used by people who have complex, varied beliefs and values that influence their behavior, it is important to describe the values that make the system work in practice. The components of the framework are like the brain of Scrum. The five Scrum values: commitment, courage, focus, openness, and respect, are like the heart of Scrum.

Commitment literally means “joined together.” It involves sharing our sincere intent to act, and then accepting responsibility for following through on that intended action. In Scrum, people personally commit to achieving the shared goals of the Scrum Team.

Courage means “from the heart.” It involves acting in alignment with our beliefs, especially when that is hard. Scrum Team members have courage to do the right thing and work on tough problems.

Focus comes from the Latin word for “domestic hearth,” which was the location of the fire at the center of the home. People in the home gathered around the hearth for warmth, light, and sustenance, since it was used for cooking. The focus was literally the thing that brought people together. In Scrum, everyone focuses on the work of the Sprint and the goals of the Scrum Team.

Openness means “exposed or evident.” The Scrum Team and its stakeholders agree to be open about all the work and the challenges with performing the work. Openness is closely related to the empirical pillar of Transparency.

Respect means “to look or view again.” Respect involves taking a second look at how we view others, to develop a sincere appreciation for the unique capabilities that they contribute. Scrum Team members respect each other to be capable, independent people.

When these five values are embodied and lived by the Scrum Team, the structures become far more effective at their intended goal of empirical improvement. At the same time, the structures are designed to encourage the development of the Values, giving meaning and depth to the work.

Successful use of Scrum depends on people developing a greater awareness and proficiency at both the intelligence represented by the structural Framework, and the intention represented by the five values. Both are important areas for inspection and adaptation by a Scrum Team.

SCRUM ROLES

CROSS FUNCTIONAL AND SELF-ORGANIZING TEAMS (1:42)

Scrum Teams are self-organizing and cross-functional. These characteristics are often misunderstood, so let's talk about what they mean in the context of Scrum.

A Scrum Team is self-organizing, meaning that the *team* chooses how best to accomplish their work, rather than being directed by others outside the team. Within the Scrum framework, the team has total autonomy to choose how things get done.

How do you estimate in Scrum? ... Ask the Team.

What technical practices should be used? ... Ask the Team.

What tools should we use to track our work? ... Ask the Team.

How is work distributed during the Sprint? ... Ask the Team.

The traditional approach to organizing teams is to do so by skillset or job title. For example, all of the researchers might be on one team, sales, on another, engineering another, and marketing on yet another team. This structure results in a "relay race" approach to delivering new products and services, which impedes speed, flexibility, and quality.

Instead, Scrum Teams are cross-functional, meaning that the members of the team have all competencies needed to accomplish the work without depending on others not part of the team.

SCRUM ROLES (2:39)

Scrum defines three roles within the Scrum Team.

The Product Owner, The Development Team, and the ScrumMaster.

The Product Owner is responsible for maximizing the value of the product and the work of the Development Team. One of the primary ways the Product Owner manages this work is through the Product Backlog.

The Product Owner is accountable for the order of the items in the Product Backlog, for ensuring that the items are clearly understood, and, that the Product Backlog is transparent to the Scrum Team and other stakeholders in the organization.

The Product Owner can choose whether to manage the Product Backlog on their own, or to involve the Development Team in the work. However, the Product Owner remains accountable.

The Development Team is responsible for building the actual product Increment.

In this work, the Development Team is cross-functional and self-organizing, and while individuals often have specialized skills or areas of focus, accountability belongs to the team as a whole.

Development Teams tend to have between three and nine team members. Smaller than three may result in a skill gap that makes it difficult to deliver potentially releasable Increments during a Sprint. Larger than nine results in a level of complexity that makes coordination, self-organization and empirical management difficult.

The ScrumMaster is responsible for ensuring that Scrum is understood and used skillfully by the Scrum Team. ScrumMasters do this by acting as a guide to the organization on Scrum theory, practices, and rules.

The ScrumMaster is often described as a “Servant Leader” role. This description means that the ScrumMaster leads by helping, rather than coercing. It can also be viewed as a role that serves through modeling an Agile mindset and skillful use of the Scrum framework. The ScrumMaster ensures that the Product Owner, Development Team, and organization as a whole understand how Scrum can be used to help them accomplish and align their goals.

SCRUM EVENTS

INTRODUCTION TO SCRUM EVENTS (3:34)

As we learned in a previous section, Scrum is an empirical approach to managing work. That means that each of the Scrum events is meant to increase transparency, so that the team can reliably inspect their progress, and adapt their plans to better reach a desired outcome.

In this section, we'll get an overview of how all of the Scrum Events work together as a system. In future sections, we'll take a closer look at each event, covering the why, who, and how in more detail.

The Sprint is the heartbeat of Scrum. It can be viewed as a container for all of Scrum's inspect and adapt loops. The Scrum Team delivers a new iteration of the working product every Sprint. Each Sprint lasts - at most - one calendar month, and shorter Sprints are extremely common.

At the beginning of the Sprint, the Scrum Team comes together in the Sprint Planning meeting to assess which items from the top of the Product Backlog they can pull into the Sprint. The team crafts a Sprint Goal, a high-level objective that will be accomplished by delivering the selected Product Backlog items. The Sprint Goal helps ensure a shared understanding of the purpose of the work in the coming Sprint.

They then create the Sprint Backlog, which is the Development Team's plan for how they will deliver the new product Increment. Once Sprint Planning is complete, the Development Team begins their development work, which continues until the end of the Sprint. Once a day, they will meet together at the Daily Scrum meeting to inspect the Sprint Plan and make any adaptations necessary. When the Sprint is complete, they will deliver a releasable product Increment. They inspect that Increment, along with other stakeholders, at the Sprint Review meeting, and adapt their future plans for the product by updating the Product Backlog. Finally, the Scrum Team will hold a Sprint Retrospective to inspect the system of work itself, and make adaptations to be more effective in future Sprints.

Scrum Teams should have consistent Sprint lengths. Sprints provide a rhythm to the work of the team and the business.

Instead of adjusting the length of each Sprint to match the upcoming work in the Product Backlog, effective Scrum Teams learn to refine Product Backlog items such that several can fit in any given Sprint.

The maximum Sprint length is one calendar month, and the majority of Scrum Teams today use two-week Sprints, providing twice as many opportunities to inspect and adapt over time.

No new work can be pushed into the Sprint. In Scrum, the only way for work to be part of a Sprint is for the Development Team to pull it in. As discussed earlier, this is one of the primary purposes of the Sprint Planning meeting.

If a development team finds that they have additional capacity while the Sprint is in progress, they may choose to pull additional work into the Sprint. At all times, meeting the Sprint Goal is the guiding principle.



If, as is more common, the work turns out to be different than the Development Team expected, they collaborate with the Product Owner to negotiate the scope of Sprint Backlog within the Sprint.

The Product Owner may choose to cancel a Sprint. This might happen if, for example, the Sprint Goal becomes obsolete, market conditions change, or the company makes a major strategy change. Sprint cancellations are rare since Sprints are intentionally short.

SPRINT PLANNING MEETING (7:35)

In this video, we'll learn all about the Sprint Planning meeting. We will cover: the inputs to the meeting; the goals; who attends; the timebox; the general approach to running the meeting; and the outputs.

As its name implies, the Sprint Planning meeting is used to plan the work of the Sprint. The meeting doesn't happen before the Sprint starts, but is the first event within the Sprint. This is true of all Scrum events. Everything happens within a Sprint, and there is no pause between Sprints.

The Sprint Planning meeting has two primary goals: First, determine what can be delivered in the Sprint, and second, to plan how to achieve that delivery.

The entire Scrum Team attends the Sprint Planning meeting. The Product Owner's role tends to be more active during discussions of "what can be delivered," and less active while the Development Team plans how to achieve the delivery, participating as questions arise.

The Sprint Planning meeting is timeboxed to eight hours for a one-month Sprint. For shorter Sprints, the timebox is shorter. A standard guideline is two hours of planning for every one week of Sprint. Remember: A timebox is a maximum amount of time, not a minimum or suggested amount of time. Many experienced Scrum Teams regularly spend far less than the timebox in Sprint Planning.

All Scrum Events are timeboxed.

With a limited amount of time, the team feels a sense of urgency to accomplish the goals of the timeboxed event. Nearly all people work most effectively when there are realistic, but honored, deadlines in place.

Since the team knows there is limited time, they tend to focus on accomplishing the most important things during that time. Skilled ScrumMasters use the timebox as a reason to move the conversation along when it's not serving the meeting's purpose. In this way, timeboxes are a constraint that help focus on the value we can add by collaborating.

Parkinson's Law states that work expands to fill the time allotted. In everyday terms, this means that a meeting that is scheduled for one hour will tend to take the full hour, regardless of what gets accomplished. Rather than allotting the exact amount of time a Scrum Event will take, Scrum specifies the maximum time - the timebox. A skilled ScrumMaster will help the team focus only on accomplishing the goals of the meeting. Experienced Scrum Teams should find that many Scrum Events are accomplished well before the timebox expires.

The Sprint Planning meeting is typically divided into two parts. Historically, these were referred to as Part A and Part B, though that language is not part of the current official Scrum Guide. Instead, the Scrum Guide refers to two topics of discussion, related to the two goals: What can be delivered, and How will we deliver it?

The four inputs to the meeting are: the latest product Increment, if the Sprint is for ongoing development; the current Product Backlog; the projected capacity of the Development Team during this Sprint; and past performance of the Development Team.



The first two inputs, the Increment and Product Backlog, help us inspect and adapt on the product itself: What is the most important thing to deliver? Which can we use to craft the Sprint Goal?

The second two inputs are related to understanding how much can we take on. Past performance is helpful guidance to the team to understand what, on average, they can achieve during a given Sprint. An analogy from sports world is that historic performance would be like the average number of points scored per game for a team over the course of an entire season. It is a good long-term guideline.

Capacity, in the sports analogy, would be to look at tonight's game, assessing who is on the active roster, whether the team might be fatigued from the recent schedule, and the strengths and weaknesses of tonight's opponent. A Scrum Team might consider various individual's planned time off or other commitments inside and out of work, the specific Product Backlog items under consideration and what skills are required to deliver them, any holidays that might fall within the Sprint, etc.

With these inputs in place, the Scrum Team enters into the first topic of discussion: What can be achieved in the Sprint? This is accomplished by the Scrum Team collaborating to understand all of the inputs, and finally by the Development Team pulling Product Backlog items into the Sprint. Only the Development Team can make this assessment of what to pull into the Sprint, and any attempt by others outside of the Development Team will lead to some sort of dysfunction, and typically to a reduction in quality.

Experienced Scrum Teams tend to spend very little time on the first topic, since they actively refine the Product Backlog on an ongoing basis.

Once the Development Team has made their forecast for what can be achieved in the Sprint, the entire Scrum Team collaborates to choose a Sprint Goal. The Sprint Goal helps clarify the overarching purpose of the Sprint. Understanding the purpose and impact of the work is a critical factor in creating high performing teams.

With the selected Product Backlog items and a Sprint Goal in place, the Scrum Team moves into the second topic of discussion: How will the chosen work get done? The selected Product Backlog items are contained in the Sprint Backlog, which is the Development Team's plan for the Sprint.

They collaborate to design the system and decompose the work required to deliver the selected Product Backlog items. These details are added to the Sprint Backlog. Effective Development Teams tend to decompose all work into small units that can be completed in no more than a day or two. They ensure that all work required to meet the team's definition of "Done" is captured in the Sprint Backlog.

As the Development Team creates the Sprint Backlog, they may discover that the work was larger than forecasted, in which case they discuss with the Product Owner what might be removed while still meeting the Sprint Goal, or if the Sprint Goal should be revised. The Product Owner also answers any new questions that arise about the details of the Product Backlog items that have been selected.

When the meeting is complete, the Development Team should be able to explain how they plan to act as a self-organizing unit to deliver a working product Increment that meets the Sprint Goal and contains all of the capabilities represented by the selected Product Backlog items.



The outputs of the Sprint Planning meeting, then, are a finalized Sprint Goal, and the Development Team's Sprint Backlog. With those in place the Development Team is ready to begin working on the items in the Sprint Backlog.

DAILY SCRUM (3:40)

In this section, we'll learn all about the Daily Scrum meeting. We will cover: the inputs to the meeting; the goal; who attends; the timebox; the general approach to running the meeting, and the output.

Once a day, the Development Team holds the Daily Scrum meeting. The Goal of this meeting is to inspect and adapt the ongoing work of the Sprint. The timebox is short - 15 minutes - and so it is important for the Development Team to be highly focused during the meeting.

The ScrumMaster has three responsibilities related to the meeting. First, the ScrumMaster ensures that the Development Team has the meeting. Second, the ScrumMaster ensures that others outside of the Development Team do not participate. And third, the ScrumMaster teaches the Development Team how to keep the meeting within the 15-minute timebox.

This implies that the ScrumMaster does not lead the meeting in a traditional sense. Once the Development Team has mastered the timebox and the meeting is a regular part of the team's daily work, the ScrumMaster may choose not to attend, or may choose to attend in a purely neutral and facilitative role.

The Daily Scrum meeting is typically held at the same time and place each day to reduce complexity. During the meeting, members of the Development Team explain their progress and plans in three areas:

What did I do yesterday to help the Development Team meet the Sprint Goal?

What will I do today to help the Development Team meet the Sprint Goal?

Do I see any impediment that prevents me or the Development Team from meeting the Sprint Goal?

The inputs to the meeting, then, are the Sprint Goal and the Sprint Backlog, which is the Development Team's plan for how they will achieve the Sprint Goal.

To maintain the timebox, the Daily Scrum is focused on the transparency and inspect portions of the empirical process. It is critical that the entire Development Team is present to reach that shared understanding. The adapt portion very often requires the input of only a subset of the Development Team - those involved with the portions of work that need to be adapted that day to meet the Sprint Goal. For this reason, it is common for some set of the Development Team to meet directly after the Daily Scrum has concluded. They discuss how to self-organize around any issues that were raised, adapting the affected portions of the Sprint Backlog.

The Adapted Sprint Backlog is the primary output of the Daily Scrum meeting.

Effective Daily Scrum meetings have several benefits. They improve communication. They eliminate the need for other meetings. They identify impediments to development for removal. They highlight and promote quick decision making, and, they improve the Development Team's level of knowledge.

Research has shown that effective Daily Scrum meetings have a high correlation with successful implementation of the Scrum Framework.

SPRINT REVIEW (2:35)

In this section, we'll learn all about the Sprint Review meeting. We will cover: the input to the meeting; the goal; who attends; the timebox; the general approach to running the meeting; and the output.

The Sprint Review meeting is held at the end of the Sprint. The primary input is the Increment developed during the Sprint.

The goal of the meeting is to inspect that product Increment, and adapt the Product Backlog as needed.

The attendees of the meeting are the Scrum Team and any stakeholders invited to attend by the Product Owner.

The timebox for the Sprint Review meeting is four hours, for a one-month Sprint. For shorter Sprints, the timebox is typically shorter, and in practice, most Sprint Review meetings are completed well before the timebox expires.

The approach to the meeting is focused around three key areas:

First, the Development Team demonstrates the product Increment developed during the Sprint. They then answer any questions that might arise about the demonstrated Increment.

Next, the attendees have a collaborative discussion of the business context for the product, including any new developments in the marketplace, feedback from users, projected release dates, if applicable, and any other relevant details that help the team decide what would be the most valuable thing to work on next.

Finally, the Product Backlog is adapted based on the discussion so that the Scrum Team enters the next Sprint with a shared understanding of the priority and context of their work.

The output of the Sprint Review, then, is a revised Product Backlog that defines the probable Product Backlog items for the next Sprint.

Some people incorrectly refer to the Sprint Review as the Sprint Demo. Notice that the demonstration of the working product Increment is only a small portion of the Sprint Review. While it covers an important aspect of the inspect step of an empirical process, a demonstration alone does not cover the important adapt step of the Sprint Review meeting.

SPRINT RETROSPECTIVE (2:25)

In this section, we'll learn about the Sprint Retrospective meeting. We will cover: the goal; who attends; the timebox; and the general approach to running the meeting.

The Sprint Retrospective meeting is the final event of the Sprint, held after the Sprint Review meeting. The Sprint Retrospective is one of the most important parts of Scrum. When done well, it enables the Scrum Team to continuously improve their approach to their work, Sprint after Sprint.

The goal of the meeting is to inspect and adapt the Scrum Team's approach to their work, and all members of the Scrum Team attend.

The timebox for the Sprint Retrospective is three hours, for a one-month Sprint. For shorter Sprints, the timebox is typically shorter.

There are many effective patterns to approach running the Sprint Retrospective meeting. Three elements are common across most of these patterns:

First, the team inspects how the work was completed in the last Sprint, focusing on areas such as people, relationships, process, and tools.

Next, the attendees have a collaborative discussion to identify and order major items that went well and opportunities for improvement.

Finally, the team creates a plan for how they will roll out any chosen improvements. The plan should be specific, so that improvements are actually carried out in the next Sprint. A planned improvement that is not carried out does not help the team.

Teams that are new to Scrum often focus largely on improvements within the team itself. As improvements are made over multiple Sprints, the Scrum Team reaches a level of internal effectiveness such that the largest opportunities for improvement shift to how the Scrum Team interacts with the broader organizational system. By constantly focusing, Sprint after Sprint, on the largest opportunities to improve, effective Scrum Teams have a larger and larger impact on the effectiveness of the overall organization.

SCRUM ARTIFACTS

SCRUM ARTIFACTS (3:48)

In archaeology, the term “artifact” refers to an object that was made by a human. The Latin roots of the word artifact roughly translate to “Work of Art.” So, an artifact is something that we make, either a tool that solves a problem, or a work of art that inspires us.

Scrum describes three primary artifacts: the Product Backlog, the Sprint Backlog, and the product Increment.

The Product Backlog and Sprint Backlog describe work to be "Done" that will add value, and the product Increment is the “Done” portion of the product completed during a Sprint.

The three Scrum Artifacts share the same goals: maximize transparency, and promote a shared understanding of the work.

The Product Backlog is the ordered list of everything we might want the Development Team to work on related to the product under development. Having a single ordered list makes organizational priorities transparent to all internal stakeholders of the product. A single Product Owner is responsible for the ordering of the Product Backlog, which provides transparency to the organization about the decision-making process used to arrive at the order.

The Product Backlog is a dynamic artifact, meaning that it is constantly evolving based on what is known at a given point in time. The Product Owner collaborates with the Development Team to refine the Product Backlog. Product Backlog refinement is an ongoing activity that can require up to 10% of the Development Team’s time. This dynamic, ongoing, and collaborative refinement of the Product Backlog promotes a shared understanding of the work.

The Sprint Backlog is collaboratively created during Sprint Planning by the Development Team. It is their plan for how they will deliver the Sprint Goal and related Product Backlog items during the current Sprint. It is regularly updated throughout the Sprint as the Development Team learns more. It is a transparent, real-time picture of all of the work in the current Sprint.

The product Increment is the sum of all Product Backlog items in a given Sprint, plus the value of previous Increments. The product Increment provides an accurate, transparent picture of the state of the product at the end of each Sprint. It helps Scrum Teams realize the Agile principle that “working software is the primary measure of progress” — which can be rephrased as “working product” — is the primary measure of progress for non-software uses of Scrum. Since the product Increment meets the team’s definition of "Done," it is usable by stakeholders, providing an opportunity for inspection of the current state of the product.

To the extent that Scrum Artifacts are completely transparent and have shared understanding, good decisions can be made through inspecting and adapting. Incomplete transparency can lead to flawed decisions, reduced value delivery, and increased risk. For this reason, the ScrumMaster focuses on increasing transparency of the Scrum Artifacts.



PRODUCT BACKLOG (2:20)

The Product Backlog is the Scrum Artifact that answers the question: “What is most important to build next?”

The primary problem of economics, applied to product and service development, is that stakeholders have seemingly unlimited wants, but organizations have limited means. Given that problem, we need to decide what order a Scrum Team or group of Scrum Teams will address stakeholder desires.

The Product Backlog is an ordered list of everything that might be needed in the product.

It makes priorities transparent to all stakeholders.

The Product Owner is the Scrum Team member responsible for the Product Backlog, including what goes in it, what order it is in, and ensuring that it is always available to stakeholders and the team.

To provide transparency and to aid the Product Owner in ordering, Product Backlog items have a description, an estimate, and value.

A Product Backlog is a constantly evolving artifact. Several sources of information can change our understanding of what should be built next, including, but not limited to: feedback on a completed product Increment at a Sprint Review meeting; feedback and ideas from current and potential users and customers; ideas from internal stakeholders, including the Development Team; and emerging competitive and technical opportunities.

Multiple Scrum Teams often work together on the same product. One Product Backlog is still used to describe the upcoming work on the product. A Product Backlog attribute that group’s items may then be employed.

With the dynamic nature of product development, the Product Backlog is constantly being updated and refined. This is a Scrum Team activity, led by the Product Owner. Product Backlog refinement will be described in more detail in another video.

PRODUCT BACKLOG REFINEMENT (2:16)

In another section, we described the Product Backlog as a “constantly evolving artifact” that is never complete. Product Backlog refinement is the work that is “Done” to constantly evolve the Product Backlog.

Most Product Backlogs were, at some point, an unsorted collection of ideas for features, enhancements, improvements, and capabilities for a product. To provide transparency and focus, the Product Owner collaborates with the other members of the Scrum Team to refine those ideas, adding details, estimates, and an order to each item. They also ensure that any single Product Backlog item that is likely to be pulled into the next Sprint is small enough to reasonably reach the definition of “Done” within the Sprint timebox. Once the items at the top of the ordered Product Backlog have these characteristics, they are considered “Ready” for Sprint Planning.

While it is possible to go through Product Backlog refinement for every known item in the Product Backlog, the focus is usually on just enough Product Backlog items to fill the next Sprint or two. This “just-in-time” Product Backlog refinement eliminates the waste that is possible when trying to provide clarity and detail for every known item long before it is pulled into a Sprint.

The Product Owner and Development Team collaboratively refine the Product Backlog. However, Product Backlog items can be updated at any time by the Product Owner or at the Product Owner’s discretion. The Development Team is responsible for providing estimates.

Product Backlog refinement is an ongoing activity throughout the life of a Product Backlog. Since there is no gap between Sprints, Product Backlog refinement occurs during Sprints, and usually consumes no more than 10% of the capacity of the Development Team. Scrum does not define a particular event, process, or timebox for Product Backlog refinement, so the Scrum Team decides how and when refinement is done.

SPRINT BACKLOG (2:33)

During Sprint Planning, the Scrum Team creates two outputs: the Sprint Goal and the Sprint Backlog.

The Sprint Goal is a high-level objective that provides guidance to the Development Team on why the work of that Sprint is important. It could be a customer outcome, a business impact, a learning goal, a risk-reduction objective, or anything else that helps the Development Team work cohesively towards a shared goal, rather than on separate initiatives during the Sprint.

The Sprint Backlog can be thought of as having two components: the “what” of the Sprint and the “how” of the Sprint.

During Sprint Planning, the Development Team pulls the highest ordered items from the Product Backlog into the Sprint Backlog. They pull as many items into the Sprint as forecast can be delivered into a “Done” Increment within the Sprint timebox. The completion of these items enables the team to reach the Sprint Goal. Notice that pulling these items into the Sprint will usually create the need to do further Product Backlog refinement during the Sprint, so that there are sufficient “Ready” items for the next Sprint Planning.

The Sprint Backlog also contains the Development Team’s plan for how they will deliver the product Increment and realize the Sprint Goal.

The Sprint Backlog makes visible all of the work that the Development Team identifies as necessary to meet the Sprint Goal.

The Sprint Backlog should provide enough detail that changes in progress can be understood in the Daily Scrum. The Development Team modifies the Sprint Backlog throughout the Sprint as they work through the plan and learn more about the work needed to achieve the Sprint Goal. Potential modifications to the Sprint Backlog during the Sprint may include: adding newly discovered work needed to meet the Sprint Goal; updating estimates on the amount of work remaining to reach the Sprint Goal; removing elements of the plan that are discovered to be unnecessary.

Only the Development Team can change its Sprint Backlog during a Sprint. The Sprint Backlog is a highly visible, real-time picture of the work that the Development Team plans to accomplish during the Sprint, and it belongs solely to the Development Team.

THE INCREMENT AND DEFINITION OF "DONE" (01:58)

An Increment, broadly defined, is an increase or addition, especially when that addition represents one of several steps in a sequence.

In Scrum, the Development Team works to deliver a new Increment of the product every Sprint. Each Increment is a new, updated, useable version of the product, so the Product Owner may choose to immediately release it.

A product Increment is a tangible output of each and every Sprint. The Increment is considered "Done" if it can be immediately released without any additional work. Each Increment is additive to all prior Increments, and is thoroughly tested, ensuring that all Increments work together.

In order to assess when work is complete on a Product Backlog item or an Increment, the Scrum Team creates a shared definition of "Done." This definition provides transparency about the level of quality that is considered sufficient to release an Increment.

The definition of "Done" guides the Development Team in knowing how many Product Backlog items to select during Sprint Planning, since the purpose of each Sprint is to deliver Increments of potentially releasable functionality that adhere to the Scrum Team's current definition of "Done."

This definition will vary significantly per Scrum Team, since each team collaboratively creates it based on their own context and goals. When multiple Scrum Teams work on the same system or product release, they collaborate to create a shared minimum definition of "Done," to which all teams will adhere.