

# Scrum Guide Notes

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## Definition of Scrum

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

## Concept

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- Small team of people that is highly *flexible* and *adaptive*
- Employ an iterative, incremental approach to *optimize predictability* and *control risk*
- Make decisions based on empirical process control theory, or *empiricism*

## Empiricism

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*Knowledge comes from experience and making decisions on what is known.*

## Scrum Consists of

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- Roles
- Events
- Artifacts
- Rules

## Scrum Optimizes

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- Flexibility
- Creativity
- Productivity

## Three Pillars of Scrum

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- **Transparency**  
Make significant aspects of the process visible to those responsible for the outcome

- **Inspection**

Frequently inspect the progress towards a goal to detect undesirable variances

- **Adaption**

Adjust the process as soon as possible to minimize further deviation

## Scrum Values

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- **Commitment**

People personally commit to achieving the goals of the Scrum Team

- **Courage**

The Scrum Team members have courage to do the right thing and work on tough problems

- **Focus**

Everyone focuses on the work of the Sprint and the goals of the Scrum Team

- **Openness**

The Scrum Team and its stakeholders agree to be open about all the work and the challenges with performing the work

- **Respect**

Scrum Team members respect each other to be capable, independent people

## The Scrum Team

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- Product Owner
- Development Team
- Scrum Master

## Scrum Team Characteristics

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- Deliver products *iteratively* and *incrementally*
- Self-organizing
- Cross-functional

## Self-organization

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*Self-organizing teams choose how best to accomplish their work, rather than being directed by others outside the team.*

## Cross-functionality

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*Cross-functional teams have all competencies needed to accomplish the work without depending on others not part of the team.*

## The Product Owner

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- Responsible for maximizing the value of the product resulting from work of the development team
- The **only** person responsible for managing the *Product Backlog*
- **One person**, not a committee
- His/her decisions are visible in the content and ordering of the Product Backlog
- The Product Owner may have the Development Team manage the Product Backlog however, they remain **accountable**

## Product Backlog Management

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- Clearly express Product Backlog Items
- Order the items in the Product Backlog to best achieve goals and missions
- Optimize the value of work the Development Team performs
- Ensure that the Product Backlog is visible, transparent, clear to all and shows what the Scrum Team will work on next
- Ensure that the Development Team understands the Product Backlog to the level needed

## The Development Team

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- Consists of professionals who do the work of delivering a *potentially releasable* Increment of “Done” product at the end of each Sprint
- Only members of the Development Team create the Increment

- Size: 3 to 9 members

## Development Team Characteristics

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- Self-organizing
- Cross-functional
- Scrum recognizes no titles for Development Team members
- Scrum recognizes no sub-teams in the Development Team
- Accountability belongs to the **team** as a whole

## The Scrum Master

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- Promotes and supports Scrum
- Helps everyone understand Scrum theory, practices and rules
- Acts as a *Servant-Leader* for the Scrum Team
- Helps those outside the Scrum Team understand which interactions are helpful and which aren't

## Scrum Master - Product Owner

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- Ensure that goals, scope, and product domain are understood by everyone on the Scrum Team as well as possible
- Find techniques for effective Product Backlog management
- Help the Scrum Team understand the need for clear and concise Product Backlog Items
- Ensure the Product Owner knows how to arrange the Product Backlog to maximize value
- Understand product planning in an empirical environment
- Understand and practice agility
- Facilitate Scrum events as requested or needed

## Scrum Master - Development Team

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- Coach the Development Team in self-organization and cross-functionality
- Help the Development Team create high-value products

- Remove impediments to the Development Team's progress
- Facilitate Scrum events as requested or needed
- Coach the Development Team in organizational environments in which Scrum is not yet fully adopted and understood

## Scrum Master - Organization

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- Lead and coach the organization in its Scrum adoption
- Plan Scrum implementations within the organization
- Help employees and stakeholders understand and enact Scrum and empirical product development
- Cause change that increases the productivity of the Scrum Team
- Work with other Scrum Masters to increase the effectiveness of the application of Scrum in the organization

## Scrum Events

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- The Sprint
- Sprint Planning
- Daily Scrum
- Sprint Review
- Sprint Retrospective

## Scrum Event Characteristics

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- Create regularity
- Minimize the need for meetings not defined in Scrum
- Time-boxed (have max duration)
- Each event is an opportunity to inspect and adapt something
- Failure to include any of these events results in reduced transparency

## The Sprint

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- Acts as a container for all other events
- Duration: One month or less (consistent duration)

- A new sprint starts immediately after the conclusion of the previous Sprint
- A "Done", potentially releasable Product Increment is created
- Consists of:
  - Sprint Planning
  - Daily Scrums
  - Development Work
  - Sprint Review
  - Sprint Retrospective

## During the Sprint

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- No changes are made that would endanger the Sprint Goal
- Quality goals do not decrease
- Scope may be clarified and re-negotiated between the Product Owner and the Development Team as more is learned

## Cancelling a Sprint

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- **Only** the Product Owner has the authority to cancel a Sprint
- The Sprint is cancelled if the Sprint Goal becomes *obsolete*
- Any completed and "Done" Product Backlog items are reviewed
- If part of the work is potentially releasable, the Product Owner typically accepts it
- All incomplete Product Backlog Items are re-estimated and put back on the Product Backlog

## Sprint Planning

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- What can be delivered in the Increment resulting from the upcoming Sprint?
- How will the work needed to deliver the Increment be achieved?
- The plan is created by the collaborative work of the entire Scrum Team
- Max duration: 8 hours for one-month Sprint
- Attendees: All Scrum Team members

## Sprint Planning - Input

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- Product Backlog
- Latest Product Increment
- Projected capacity of the Development Team during the Sprint
- Past Performance of the Development Team

## Sprint Planning - Notes

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- The number of items selected from the Product Backlog for the Sprint is **solely** up to the Development Team
- The Product Owner can help to clarify selected Product Backlog Items and make trade-offs
- The Development Team may renegotiate selected Product Backlog Items with the Product Owner
- The Development Team may invite other people to attend to provide technical or domain advice
- Output: *Sprint Backlog* and *Sprint Goal*

## Sprint Backlog

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- The Product Backlog Items selected for this Sprint
- A plan for delivering them

## Sprint Goal

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- An **objective** that will be met within the Sprint through the implementation of the selected Product Backlog Items
- Provides guidance to the Development Team on *why* it is building the Increment

## Daily Scrum

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- Held every day of the Sprint at the same place and time
- The Development Team plans work for the next 24 hours
- Max duration: 15 minutes
- Attendees: All Development Team members

## Daily Scrum - Notes

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- The Scrum Master ensures that the Development Team has the meeting but the Development Team is **responsible for conducting** the Daily Scrum
- The Scrum Master teaches the team to keep the Daily Scrum within the 15-minute time-box
- The Development Team or team members often meet immediately after the Daily Scrum for related discussions
- It is an internal meeting for the Development Team. If others are present, the Scrum Master ensures they **do not disrupt** the meeting

## Daily Scrum - Benefits

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- Improve communications
- Eliminate other meetings
- Identify impediments to development for removal
- Highlight and promote quick decision-making
- Improve the Development Team's level of knowledge

## Sprint Review

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- Held at the end of each Sprint
- Inspect the Increment and adapt the Product Backlog if needed
- Collaborate on the next things that could be done to optimize value
- Max duration: 4 hours for a one-month Sprint
- Attendees: All Scrum Team members and Stakeholders  
(Invited by the Product Owner)

## Sprint Review - Notes

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- The Sprint Review is **not a demo**
- The presentation of the Increment is intended to elicit feedback and foster collaboration
- Output: A revised Product Backlog that defines the *probable* Product Backlog Items for the next Sprint

## Scrum Master - Sprint Review

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- Ensure that the event takes place
- Everyone should understand its purpose
- Teach everyone to keep it within the time-limit

## Sprint Retrospective

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- Occurs after the Sprint Review and prior to the next Sprint Planning
- Identify how the last Sprint went with regards to people, relationships, processes and tools
- Identify and order the major items that went well and potential improvements
- Create a *plan* for implementing improvements to the way the Scrum Team does its work
- Max duration: 3 hours for a one-month Sprint
- Attendees: All Scrum Team members

## Scrum Master - Sprint Retrospective

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- Ensure that the event takes place and attendants understand its purpose
- Ensure that the meeting is *positive* and *productive*
- Teach everyone to keep it within the time-box
- Participate as peer team member from the accountability over the Scrum process
- Encourage the Scrum Team to improve

*Note: During each Sprint Retrospective, the Scrum Team plans ways to increase product quality by improving work processes or adapting the definition of “Done” if appropriate and not in conflict with the product or organizational standards*

## Scrum Artifacts

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- Product Backlog
- Sprint Backlog
- Increment

## Product Backlog

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- Ordered list of everything known to be needed in the Product
- Single source of requirements for any changes to be made to the Product
- Dynamic (it evolves)
- It is never complete
- If a Product exists, a Product Backlog exists too

*Note: If multiple Scrum Teams work on the same Product, **only one** Product Backlog is used*

## Product Backlog Items

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- Product Backlog items that will occupy the Development Team for the upcoming Sprint are *refined* so that any one item can reasonably be “Done” within the Sprint
- Product Backlog items that can be “Done” by the Development Team within one Sprint are deemed “Ready” for selection in a Sprint Planning

## Product Backlog Items - Attributes

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- Description
- Order
- Estimate
- Value
- May also include test descriptions that will prove the item’s completeness when “Done”

## Product Backlog Refinement

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- The act of adding **detail**, **estimates**, and **order** to items in the Product Backlog
- The Product Owner and the Development Team cooperate during refinement
- The Scrum Team decides *how* and *when* refinement is done
- *Usually* consumes no more than 10% of the Development Team’s capacity

## Product Backlog Refinement - Notes

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- Product Backlog Items can be updated *anytime* by the Product Owner or at the Product Owner's discretion
- **Only** the Development Team is responsible for any estimates

## Sprint Backlog

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- The set of Product Backlog Items selected for the Sprint
- A plan for delivering the Increment and realizing the Sprint Goal
- Includes at least one high priority process improvement identified in the previous Retrospective meeting
- Belongs **solely** to the Development Team
- **Only** the Development Team can change the Sprint Backlog during a Sprint

## Increment

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- The sum of all Product Backlog Items completed during the Sprint and the value of Increments of all previous Sprints
- A step towards a vision or a goal
- Must be in *usable condition* regardless of whether the Product Owner decides to release it

## Definition of “Done”

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- When a Product Backlog Item or an Increment is described as “Done”, everyone must understand what “Done” means
- The definition of “Done” is used to assess when work is complete on the product Increment
- It also guides the Development Team in knowing how many Product Backlog Items it can select during a Sprint Planning

## Definition of “Done” - Notes

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- Multiple Scrum Teams working on the same Product **must** mutually define the definition of “Done”
- If the definition of “Done” is part of the conventions, standards or guidelines of the development organization, all Scrum Teams **must** follow it as a *minimum*
- As Scrum Teams mature, it is expected that their definitions of “Done” will expand to include more stringent criteria for higher quality

## Sprint Progress

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- The *Development Team* tracks the total work remaining in the Sprint Backlog at least every **Daily Scrum**
- It then evaluates the likelihood of achieving the Sprint Goal

## Release Progress

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- The *Product Owner* tracks the total work remaining to reach a goal at least every **Sprint Review**
- They then compare this amount with work remaining at previous Sprint Reviews to assess progress toward completing projected work

## References

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- [1] Ken Schwaber and Jeff Sutherland. The scrum guide. <https://www.scrumguides.org/>, November 2017.