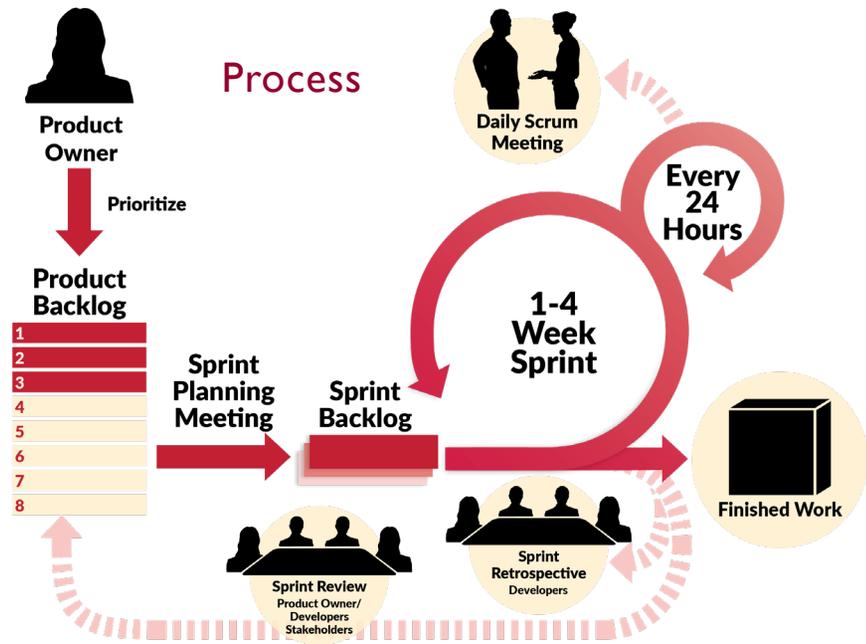


Benefits of Scrum

Reduced Risk Constant feedback and early value delivery helps manage risk	Early and Maximum Value Deliver as early as possible; focus on highest value	Increased Adaptability Rapid response to change and emerging requirements	Increased Visibility Product development process and status are transparent	Clear Accountability Clarity in who delivers the vision and who delivers the product	Constant Feedback Constant sponsor and stakeholder feedback ensures deliverable meets actual needs
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Scrum Team
(no more than 10 members)



Events

How do we do it?	Sprint Planning	Team discusses why the Sprint is valuable, what can be DONE this Sprint, and how the work will be completed.
How often can we deliver?	Sprint	Consistent project iteration cycle that ends with delivery of usable Increment/s that provide value.
How are we doing?	Daily Scrum	15 minute daily stand-up: What did I do yesterday? What am I doing today? What is in my way?
How did we do?	Sprint Review	Stakeholders provide final feedback on the completed user stories.
How can we get better?	Sprint Retrospective	Scrum Team reflects on what can work better in the next Sprint. Product Owner attends if invited by Team.

Artifacts

Product Backlog	High-level slices of work in priority order, with high-level estimates. Items align with the Product Goal.
Sprint Backlog	User stories associated with current Sprint priorities, with low-level estimates. Items align with the Sprint Goal.
Increment	A deliverable that advances toward the Product Goal. Must meet the team's definition of DONE (quality measures).

Scrum Team

Developers “how” “how much”

- Empowered to organize and manage their own work
- Small, cross-functional group (3 to 8 people, ideally co-located)

Product Owner “what” “how many”

- Empowered to make product decisions
- Accountable for product success
- Maintains and prioritizes Product Backlog
- Ensures the team works on highest valued features
- Highly available to the team

Scrum Master “process”

- Coaches team on scrum theory, practice and rules — not a manager
- Acts as a “servant leader” to the Scrum Team and organization
- Shields the team from external interference and removes impediments to progress

Artifacts

Product Backlog

- Desired product features: prioritized
- Items can be added by anyone, anytime

Sprint Backlog

- A subset of the Product Backlog, chosen by the team for the next sprint
- Based on Product Owner priorities

Increment

- Deliverable advancing to Product Goal
- Meets Team’s definition of DONE

Burndown Chart

- Shows how much work remains in Sprint
- Updated daily

Tools

Many software tools are available to help manage Scrum projects. Low-tech solutions like whiteboards and sticky notes can work well for co-located teams. Other tools, like Jira or GitLab are also available.

Events

Sprint Planning

- Developers select highest priority items from the Product Backlog for the next Sprint
- Developers decompose features and User Stories into tasks and estimate the work in Story Points
- Developers commit to complete the identified and estimated work within the next timeboxed Sprint (Sprint Backlog)

Sprint

- An agreed-upon, set time period during which Developers work toward a goal (Sprint Backlog); generally 2-4 weeks
- Developers share work throughout the Sprint and gets continuous feedback from the Product Owner and other stakeholders
- Work stops at the end of the Sprint and accomplishments are evaluated

Daily Scrum

- 15-minute stand-up meeting
- Each Developer reports:
 - ◇ What I’ve done since last Daily Scrum
 - ◇ What will I do before next Daily Scrum
 - ◇ What is standing in my way
- Provides an opportunity for Developers to coordinate work

FAQ

Q: When is a User Story complete?

A: A User Story is complete when it meets the team’s definition of “DONE” (all identified tasks are finished) and it satisfies the acceptance criteria specified by the Product Owner.

Q: What is the appropriate size for a User Story?

A: A User Story must be small enough to complete in one Sprint. If it would take longer than a Sprint, it should be broken into smaller stories.

Sprint Review

- At the end of each Sprint, the team demonstrates “DONE” features and User Stories to stakeholders
- Stakeholders provide feedback which could result in new items for the Product Backlog

Sprint Retrospective

- At the end of each Sprint, the team evaluates their work in terms of what went well and what can be improved

Backlog Refinement

- The team periodically meets to discuss several of the next most valuable features in the Product Backlog and decompose them into User Stories
- User Stories are estimated and acceptance criteria may be added
- Do longer-range technical planning

Release Planning

- The Product Owner and team create a high-level plan for multiple Sprints and intermediate deliveries of the work

Visibility + Flexibility = Scrum

Q: Who decides when a release happens?

A: The Product Owner initiates a release when the team has developed functionality that’s valuable to users.

Q: Who manages roadblocks?

A: Developers must learn to resolve issues and only escalate to the Scrum Master when necessary.

Q: What are Scrum’s biggest challenges?

A: When Developers are not self-managing; Scrum Master is not facilitating, or Product Owner sets deadlines.

Glossary of Terms

User Stories

- Very high level definition of what the Product Owner wants users to be able to do
- Each backlog item is captured as a separate item on the Product Backlog
- Stories are NOT dependent on other stories
- Story Template: “As a <user> I want <function> so that <desired result>.”
- Story Example: As a cook, I want to print a recipe so I can prepare it

Epic

- Large User Story that needs to be split into smaller stories before team can work on them

Story Points

- A simple way to estimate level of effort—expected to improve over time
- Points are a relative measure of difficulty
- Story pointing is a team activity where individual estimates are discussed and rationalized
- The “Fibonacci” sequence is sometimes used (1, 2, 3, 5, 8, 13, 21) to indicate relative size

Velocity

- Measure of work completed by Developers during a Sprint, based on Story Points. Over time, velocity should stabilize over Sprints

Quality Assurance

- A high level of external and internal quality must be maintained through development; process varies by project
- Automated regression testing is ideal

Acceptance Criteria

- All criteria set by Product Owner for each User Story to consider the User Story is complete

**“DONE” + “ACCEPTED”
= Finished Work**