

# : *What are major ideas and concepts in agile?*

by Daniel J. Power

The scrum approach originated as an agile software development framework because practitioners wanted a better process to improve communication and increase productivity and throughput.

Although Agile Scrum was intended for management of software development projects, it can be used to run software maintenance teams, or as a general project/program management approach. Scrum has useful ideas that have been generalized for a wide range of purposes.

The main roles in Scrum are the Product/Project Owner, Scrum Master, and Team member. A Team Lead is sometimes designated by a project coordinator or by the team.

Scrum eliminates many of the tasks normally assigned to a team lead because teams are self-organizing and may have joint or shared leadership.

In scrum, team activity is monitored and coordinated regularly, usually every work day.

Scrum is an iterative process, an scrum iteration is called a sprint.

The product/project owner is responsible for maximizing return on investment (ROI) by identifying product/project features, translating these features into a prioritized feature list, deciding which should be at the top of the list for the next Sprint, and continually re-prioritizing and refining the list.

A team in Scrum is generally seven plus or minus two people.

The ScrumMaster and the Product/Project Owner are generally not the same person. If a team lead is identified by a project coordinator, that person may be a "surrogate" product/project owner.

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The first step in Scrum is for the Product Owner to articulate the product vision. Eventually, this evolves into a refined and prioritized list of features called the Product Backlog.

Ideally, a Scrum team meets each workday for 15 minutes, where each member of the team discusses the work they've completed since the last meeting.

Time-boxes, Cross-functional teams, and Open communications within team are key Scrum principles.

Stakeholders in Scrum are interested in results but are generally not responsible for specific deliverables.

Scrum was formalized by Ken Schwaber and Jeff Sutherland and it's now being used by companies large and small.

In Scrum, the overall prioritized work to be done is referred to as a product/project backlog. A sprint backlog is a prioritized subset of the overall backlog

In Scrum, the person in charge of the tracking progress and the updates for the Scrum is known as the Scrum Master.

A good time of day to hold a Scrum status meeting is at the beginning of the workday. Immediately after lunch or at the end of the workday are generally considered poor times to schedule the daily scrum standup.

Scrum project status meetings (Standups) should be held every workday.

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What do you infer from the following user story? As a sales agent, I want a client search feature so that I can find my preferred clients quickly and easily. This is a good story, but it needs clarification on the phrase "quick and easy for UI testing". The story would benefit from more detail and possibly a narrower scope.

You are a Scrum Master or coach facilitating a retrospective meeting. The main purpose that you must ensure during the meeting is to Inspect and adapt, look back at how not what to do better next time. Peer pressure, fine-grain coordination, show and tell, and offering insights and asking for help is not the main purpose.

Involving the project team in planning and estimating task times and providing early feedback on delivery velocity helps mitigate the risk of schedule flaws.  
Employee turnover may be reduced and productivity may improve, but those are not the primary outcomes from planning.

Agile planning different from the traditional approach to planning in that it places the emphasis on the planning process and it is iterative.

Time-boxed means in Agile terms mean a fixed period of work, time-bound. It does not mean greater flexibility or more frequent and repeated work periods.

Typical duties or tasks of a Scrum Master include communicating with management and other teams, helping her team self-organize and self-manage, and removing obstacles that affect the team. The team is responsible for planning and prioritization.

According to the Agile manifesto, individuals and interactions have greater value than processes and tools.

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Project owner requirements are stored in the Product Backlog. The Sprint Backlog is a subset of prioritized user stories from the overall Product/Project Backlog.

According to the agile manifesto, the items on the left are valued more highly than those on the right: 1) Individuals and interactions over processes and tools; 2) Working software over comprehensive documentation; 3) Customer collaboration over contract negotiation; 4) Responding to change over following a plan.

Agile methods are more amenable and especially suited to an uncertain and people-oriented development environment.

Burndown charts are used to show a team's progress against estimates.

A 'user story' is an artifact written collaboratively by developers, testers, and business representatives to capture product/project requirements.

Agile Software Development is a conceptual framework for software engineering that promotes development iterations. It is not a methodology for software engineering and agile does not promote life-cycle development for projects.

Agile methods include Extreme Programming, Feature-driven development, and Scrum.

A Scrum team is cross-functional means everyone in a diverse group is needed to take a feature from idea to implementation.

The Scrum Master is often likened to coach and trainer for the Scrum team. The Scrum Master is NOT a Cheerleader or Den Mother.

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The team grants authority to a Scrum Master.

In the daily Scrum or standup, each team member answers 3 questions. Team members do not engage in problem-solving.

"Snowplowing" is pushing user stories into future iterations. It does not mean that user stories are removed from the Product backlog.

A good way to end a stand-up meeting is to have team members share any wins that were experienced since the last standup.

The Product owner creates the prioritized wish list called a product backlog. The Product owner should control the priority of features implemented in a project.

Agile project management is a process where projects are managed and implemented in small chunks.

The five states or phases of the agile life cycle are Envision, Speculate, Explore, Adapt, and Close. In the Explore phase, you produce the product.

When collaborating during the Explore phase, one role of the project manager is watching for unresolved issues and removing team roadblocks.

The primary purpose of the Speculate phase is to identify the features targeted for an iteration or sprint.

Projects that need to be delivered quickly, but not all at once are good candidates for agile project management. Projects that take many months of planning are not especially suited to agile.

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Velocity describes how many functions/features/user stories the team completes in the average sprint.

A Project Brief defines the purpose, scope, and major deliverables for a project.

The Systems Development Life Cycle (SDLC) method uses sequential development, Scrum and other Agile methods use an incremental and iterative approach.

The Sprint Retrospective meeting should be attended by the Scrum Master and Scrum Team.

A user story in the Scrum framework is a very high-level definition of a requirement.

Pro arguments for using Scrum include 1) Clearly defined rules; 2) Increasing productivity; 3) Self-organizing. Scrum does not necessarily lead to greater creativity.

According to Schwaber and Sutherland, Scrum founded upon the theory called Empirical process control. Empiricism means working in a fact-based, experience-based, and evidence-based manner. In Scrum, decisions are made based on observation and experimentation rather than upon detailed upfront planning.

In general, only the product owner can cancel a sprint.

Clarity is NOT a Scrum value, rather Scrum encourages commitment, courage, openness and respect.

Artifact transparency means everyone involved with a project correctly understands the state of the artifact, its completion plan, functionality, maintainability, and the goal for completion.

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In the Scrum framework, the Scrum Master is responsible for enacting Scrum values and practices.

Scrum software development is an agile way to manage a project. Scrum software development differs from most software development methodologies in that Scrum is the framework for managing a process.

What does it mean to say a scrum team is self-organizing and cross functional?

- Self-organizing: there is no overall team leader who decides which person will do which task or how a problem will be solved. Those are issues that are decided by the team as a whole.
- Cross functional: everyone is needed to take a feature from idea to implementation

What does it mean to say sprints are timeboxed?

The max amount of time a sprint is allowed to be

What is the primary artifact in Scrum development?

The product

What is the most popular and successful way to create a product backlog using Scrum methodology?

is to populate it with user stories, which are short descriptions of functionality described from the perspective of a user or customer.

How does the product backlog differ from the sprint backlog?

The sprint backlog can be thought of as the team's to-do list for the sprint, whereas a product backlog is a list of features to be built (written in the form of user stories).

How does the role of ScrumMaster differ from a traditional project manager?

- In the Scrum process, a ScrumMaster differs from a traditional project manager in many ways, including that this role
  - does not provide day-to-day direction to the team and does not assign tasks to individuals.
  - The ScrumMaster is the team's coach, and helps Scrum practitioners achieve their highest level of performance.
  - A good ScrumMaster shelters the team from outside distractions, allowing team members to focus maniacally during the sprint on the goal they have selected.
  - Although individuals may join the team with various job titles, in Scrum, those titles are insignificant.

What is the ScrumMaster often likened to for the scrum team?

The ScrumMaster is often considered a coach for the team, helping the team do the best work it possibly can. The ScrumMaster can also be thought of as a process owner for the team, creating a balance with the project's key stakeholder, who is referred to as the product owner.

What is the seeming contradiction in the role of a ScrumMaster?

Many who are new to the ScrumMaster role struggle with the apparent contradiction of the

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ScrumMaster as both a servant-leader to the team and also someone with no authority.

What authority does a ScrumMaster have for a project?

The Scrum Master has no authority over Scrum team members, the ScrumMaster does have authority over the process. Although a ScrumMaster may not be able to say, "You're fired," a ScrumMaster can say, "I've decided we're going to try two-week sprints for the next month."

Who grants authority to a Scrum Master?

They have authority, but that authority is granted to them by the team.

What is an example of how the ScrumMaster protects the team?

Think of the help from a ScrumMaster as similar to a personal trainer who helps you stick with an exercise regimen and perform all exercises with the correct form. A good trainer will provide motivation while at the same time making sure you don't cheat by skipping a hard exercise. The trainer's authority, however, is limited. The trainer cannot make you do an exercise you don't want to do. Instead, the trainer reminds you of your goals and how you've chosen to meet them. To the extent that the trainer does have authority, it has been granted by the client. ScrumMasters are much the same: They have authority, but that authority is granted to them by the team.

In a Scrum process who would work with the product owner to make sure the product backlog is in good shape and ready for the next sprint?

Scrum Master

What is the term used for a project's key stakeholder?

Product Owner

According to Schwaber and Sutherland, what theory is Scrum founded upon?

Scrum is founded on empirical process control theory, or empiricism.

What three pillars uphold every implementation of empirical process control?

transparency, inspection, and adaptation

What are the Scrum values?

- commitment, courage, focus, openness and respect.

--All work performed in Scrum needs a set of values as the foundation for the team's processes and interactions. And by embracing these five values, the team makes them even more instrumental to its health and success.

--Focus - Because we focus on only a few things at a time, we work well together and produce excellent work. We deliver valuable items sooner.

--Courage - Because we work as a team, we feel supported and have more resources at our disposal. This gives us the courage to undertake greater challenges.

--Openness - As we work together, we express how we're doing, what's in our way, and our concerns so they can be addressed.

--Commitment - Because we have great CONTROL over our own destiny, we are more committed to success.

--Respect - As we work together, sharing successes and failures, we come to respect each other and to help each other become worthy of respect.

What is the responsibility of the Product owner? Who is the Product owner?



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The Product Owner is responsible for maximizing the value of the product and the work of the Development Team and for the product backlog. The product owner is one person. Not a committee.

What are characteristics of the development team? What is the meaning of self-organizing, cross-functional, shared accountability?

- Development Teams have the following characteristics: They are self-organizing. No one (not even the Scrum Master) tells the Development Team how to turn Product Backlog into Increments of potentially releasable functionality;
- Development Teams are cross-functional, with all of the skills as a team necessary to create a product Increment;
- Scrum recognizes no titles for Development Team members other than Developer, regardless of the work being performed by the person; there are no exceptions to this rule;
- Scrum recognizes no sub-teams in the Development Team, regardless of particular domains that need to be addressed like testing or business analysis; there are no exceptions to this rule; and,
- Individual Development Team members may have specialized skills and areas of focus, but accountability belongs to the Development Team as a whole.

What is included in the Sprint time-box?

Sprint Planning, Daily Scrums, the development work, the Sprint Review, and the Sprint Retrospective

Can anyone cancel a Sprint? If so, who?

A Sprint can be cancelled before the Sprint time-box is over. Only the Product Owner has the authority to cancel the Sprint, although he or she may do so under influence from the stakeholders, the Development Team, or the Scrum Master.

What occurs during the Sprint Retrospective?

The Sprint Retrospective is an opportunity for the Scrum Team to inspect itself and create a plan for improvements to be enacted during the next Sprint.

How does a Sprint backlog differ from a Product backlog?

The Product Backlog is an ordered list of everything that might be needed in the product and is the single source of requirements for any changes to be made to the product. The Sprint Backlog is the set of Product Backlog items selected for the Sprint, plus a plan for delivering the product Increment and realizing the Sprint Goal. The Sprint Backlog is a forecast by the Development Team about what functionality will be in the next Increment and the work needed to deliver that functionality into a "Done" Increment.

What is artifact transparency?

Everyone involved correctly understands the state of the artifact, completion, functionality, maintainability, goal completion.

What is the term for small, logical chunks of work?

Iteration or Sprint

What is discussed in a stand-up meeting? What is the ideal meeting length?

Discuss what individual did yesterday, what they are working on today, and any roadblocks. Ideal meeting length is 15-30 minutes with 15 being the ideal length.

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In general, what are the five stages, states or phases of an agile life cycle?

Envision -> Speculate -> Explore -> Adapt -> Close where envisioning and closing are only done once and the middle three make up the sprints/iterations.

In general, what tasks need to be completed by the end of the Envision stage? What is a feature?

The project charter should be complete which outlines the scope of the project, who's the sponsor and manager and what are their responsibilities, and identifying risks in the project.

What is the primary purpose of the speculate phase?

The speculate phase is primarily used to plan for the sprint including things like considering new features, features from the backlog, and incomplete features. Along with this time and cost estimates are given to these features.

When collaborating during the Explore phase, what are major roles of the project manager?

Watches for unresolved issues and roadblocks, attempts to decrease project risk, and communicates status with key stakeholders.

In general for Agile Project Management, who works ahead of the core team by one or two sprints to collect requirements.

Business Analyst

What term is sometimes used for adding a feature that is not implemented during a sprint to the backlog list for the next sprint?

Snowplowing

What is "snowplowing"?

Adding a feature that is not implemented during a sprint to the backlog list for the next sprint

What happens in the Explore phase?

This is when you actually code and develop the features. Collaboration between the business and technical team is important in this phase.

When does the adapt phase occur? What is a lessons learned discussion?

The adapt phase occurs at the end of the explore phase and looks at learning from the previous sprint and adapting from it. During this phase the team reviews what has been delivered with the customer, compares this to the plan, discusses what's working and what's not, and has a lessons learned discussion. Lessons learned discussion aims to discover what's been working and what has not been working, looks at whether the team is having common roadblocks, whether features need to be added/removed, etc.

When do team members share what they achieved yesterday, what they plan to achieve today, and what they need help with to progress in their work?

Stand-up meetings

What are characteristics of good agile projects?

- Quality product to be delivered quickly but not all at once.
- Requirements change or evolve frequently.
- Organization is willing to free up team members.
- The product can deliver business value incrementally.

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Is an Executive Information System likely to be a good agile project? Why?

Depends on some factors but using the factors given in the agile video yes. You have a strong executive buy-in who want a system within the next year. You can chunk up the project based on each of the 7 executives and the requirements are likely to change as the executives see what the system is capable of.

What is included in a Product/Project data sheet (PDS)? When is the PDS usually created?

It's essentially the executive summary for the project outlining things like project description, object, the timeline, cost estimates, constraints of the project, and prioritization.

What are examples of project constraints?

- Retail system can't be worked on between Nov 1 and Jan 31.
- Accountants are only available during Q1 and Q3.
- Project needs to be completed by Feb 4.
- Project must adhere to MIL-STD-1553
- Budget won't exceed 2 million dollars.

What phases are typically included in a sprint?

Speculate, Explore, Adapt

If you have an experienced agile team, what is a good risk management approach to use?

Plan riskier and more complicated features first as this allows the team to know what they are up against and also helps the team learn from any difficulties to avoid surprises in later sprints.

What is a use case? What is the purpose of a use case? What are the key components of a use case?

Captures a diagram or picture to show the relationship between an actor and the system or process. Helps stakeholder imagine all the ways in which a requirement will address their business needs via features. The actor performing the action, the system or process the actor interacts with, and the overall box which represents boundaries.

What is a good way to end a stand-up meeting?

End on a positive note, share a win or demonstrate progress to keep positive momentum going.

What term is used to describe how many functions a project team is completing in an average sprint?

Velocity

What is a burndown chart? A backlog chart? Are these control tools?

A burndown chart is a communication tool used to show the work left to complete on the Agile project. A backlog chart compares features and the expected time to complete them. They are absolutely used as control tools.

What is the role of an agile team project manager?

Clear roadblocks for team members, observe and guide members, lead via coaching, and listen carefully during stand-up meetings to follow-up afterwards.

What is the PDCA cycle? What does the acronym PDCA stand for?

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It is a cycle to show how to develop and implement things, but it is also a great tool to use to foster collaboration as many stages during this members are forced to consult other team members to complete the cycle. Plan, Do, Check, Adjust.

Who should control the priority of features implemented in a project?

Customer/client

What is the purpose of an Issues log? Should issues be identified in a standup meeting?

Helps the team address issues that prevent task completion quickly. Issues can be brought up in the stand-up but are not to be resolved during the stand-up.

What is the need to change from SDLC to an Agile framework like Scrum?

- SDLC is too heavyweight or cumbersome (too many things are done that are not related to the software product being produced.

- Software development is too rigid - Difficulty with changing requirements and short dev cycles - Need more active customer involvement.

In the Agile Manifesto, working software is valued more than what process characteristic?

Individuals and interactions over process and tools, Working software over comprehensive documentation, customer collaboration over contract negotiation, responding to change over following a plan.

What does the Scrum agile process allows developers and managers to focus upon?

Allows us to focus on delivering the highest business value in the shortest time.

Approximately when was Scrum proposed by Jeff Sutherland and Ken Schwabe?

1995

How are product requirements captured in Scrum?

Product Requirements are captured as items in a list of "product backlog"

Who creates the prioritized wish list called a product backlog?

The Product Owner.

What occurs during sprint planning?

The team pulls a small chunk from the top of the wish list, a sprint backlog, and decides how to implement those pieces.

In Scrum, each sprint ends with what ceremonies?

The sprint review meeting and Sprint Retrospective.

The Systems Development Life Cycle (SDLC) method uses sequential development, what type of development occurs in Scrum and other Agile methods?

Overlapping Development

What are the three roles in the Scrum framework?

Product Owner, Scrum Master, Team

In the Scrum framework, who decides on release date and content of the product?

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Product Owner

In the Scrum framework, who is responsible for enacting Scrum values and practices?  
Scrum Master

What occurs in the Scrum Sprint Review Meeting?  
The teams presents what was accomplished during the sprint. Usually demos new features

What happens during the Pre-Project/Kickoff meeting?  
This is the meeting after the sprint planning meeting that allows for the Scrum Master to check off all the details of the sprint. Ie Project schedule?, Rules of Conduct? Project contacts? Ect.

What are the three questions addressed in the daily scrum?  
What did you do yesterday? What will you do today? What obstacles are in the way?

What is appropriate during the daily scrum?  
It is a meeting in which team members make a commitment to each other and to the Scrum Master. IT is not a problem solving session or a way to collect info about who is behind schedule.

Who should attend the Sprint Retrospective meeting?  
The Scrum Team only

When is the Product Backlog usually created? and by whom?  
Usually created during the Sprint Planning Meeting and by the Product Owner

Around what does a Scrum team self-organize and prioritize tasks?  
Sprint Backlog

What does a Sprint Burn Down Chart show?  
It shows the total sprint backlog hours remaining per day, the estimated time to release. It is a big picture view of the project's progress.

What is a user story in the Scrum framework?  
A user story is a very high-level definition of a requirement, containing just enough information so that the developers can produce a reasonable estimate of the effort to implement it.

What are Scrum pros and cons?

- Pros
  - Completely developed and tested features in short iterations
  - Simplicity of the process
  - Clearly defined rules
  - Increasing productivity
  - Self-organizing
  - Each team member carries a lot of responsibility
  - Improved communication
  - Combination with extreme programming
- Cons
  - "Undisciplined hacking" (no written documentation)
  - Violation of responsibility

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-- Current mainly carried by the investors

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