
Scrum – Dos and Don'ts

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13-NOV-2009

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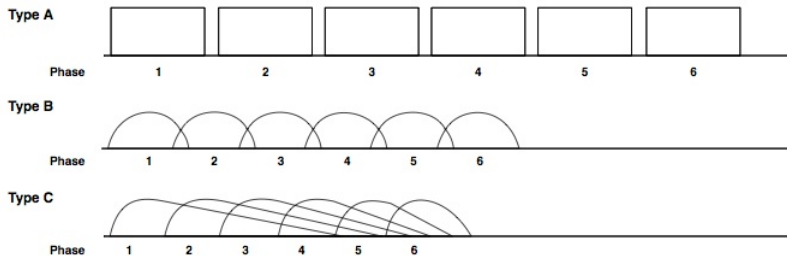
In 1986 Hirotaka Takeuchi and Ikujiro Nonaka realized that the traditional approaches to the development of highly complex systems (ranging from pure software products to cars, airplanes and space probes) have ceased to be effective tools at all.

They published a seminal paper titled „The New New Product Development Game“ where they suggested using a „holistic“ approach to complex system design and implementation rather than the traditional sequential processes¹:

The traditional sequential or „relay race“ approach to product development [. . .] may conflict with the goals of maximum speed and flexibility. Instead, a holistic or „rugby“ approach – where a team tries to go the distance as a unit, passing the ball back and forth – may better serve today's competitive requirements.

¹Cf. [TaNo86].

Takeuchi and Nonaka found three basically different types of development phases in companies like NASA (type A), Fuji-Xerox (type B) and Honda and Canon (type C)²:



Over the years the holistic approach described by Takeuchi and Nonaka became the basis for what is now known as „Scrum“ (named after the scrum found in Rugby).

²Cf. [TaNo86].

Scrum is

- an agile method of (software) development.
- a process allowing for short turn around times.
- an iterative and incremental process.
- about common sense!

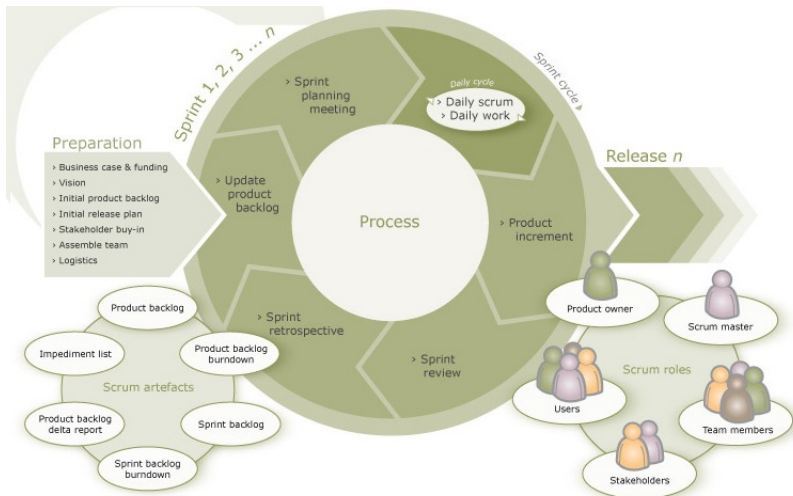
Being an agile method, Scrum is indebted to the „Manifesto for Agile Software Development“ which values the following:

Value...

- **individuals and interactions** over processes and tools,
- **working software** over comprehensive documentation,
- **customer collaboration** over contract negotiation and
- **responding to change** over following a plan.

- Scrum based projects consist of a number of so called *Sprints*. (These sprints can be seen as iterations.)
- Normally Sprints run for 2 to 4 weeks (their length should be stable during a project) – therefore Sprints are called *time boxed*.
- During a Sprint a (partial) product is designed, developed and tested.
- It is vital that there are no changes during a Sprint (this makes short Sprints more favorable compared with longer ones).
- The team members are protected against outside influences by the *Scrum Master*.

The following picture gives an overview of the Scrum process:



(Cf. <http://scrumforteamssystem.com/ProcessGuidance/v2/Scrum/Scrum.aspx>.)

The following persons and groups of persons are vital for Scrum:

- Product Owner
- Scrum Master
- Team Members
- Users
- Stakeholders

All people being responsible for developing and delivering a solution to a problem in a Scrum based project are called *Pigs*³.

Thus the Scrum Master, the team members and the Product Owner are pigs while all other persons are more or less chickens and give feedback to the pigs as part of the overall process.

³This goes back to a pig and chicken joke involving ham and eggs.

The project owner (*PO* for short) has the following responsibilities and attributes⁴:

- He represents everyone's interest in the success of the project.
- Normally the PO is an employee of the client.
- He has to prioritize functional and non-functional requirements and collects and aggregates input from users and other stakeholders.
- He decides about release dates and the scope of the product delivered.
- He has to accept or reject the product being developed.
- He is responsible for the ROI of the project.

⁴See [Ei09_1] for a more in depth explanation of PO characteristics.

The Scrum Master

- represents the management to the project,
- guarantees that the Scrum values are held in respect and that Scrum techniques are employed throughout the project,
- removes obstacles,
- makes sure that the teams are functional and guards them against external influences and
- supports good communication between teams.

The Scrum Master should not be confused with a team leader:

Team leader: Leads a team and defines what is to be done and how it should be done in his team.

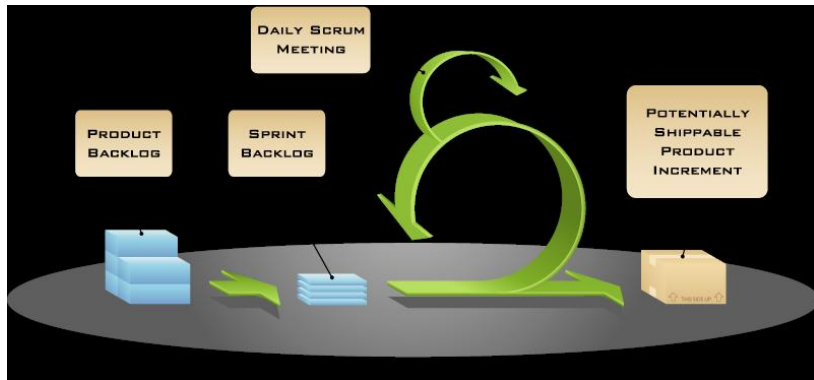
Scrum Master: Takes care of Scrum values and methods.

See [Ei09_2] for a detailed description of the Scrum Master's responsibilities and abilities.

A team

- consists of about 5 to 9 team members,
- is not focused to a single function (so it should contain programmers, testers, UI-designers etc.),
- consists of full-time members only (an exception might be made with administrators),
- is highly self-organizing (ideally there should not be any titles within a team, no sub-leads etc.),
- should be stable during a Sprint (no additional team members, no people leaving).

The so called *Sprints* are the heart of Scrum and have the following structure:



(See <http://www.mountaingoatsoftware.com/system/asset/file/17/ScrumLargeLabelled.png>.)

There are three main ceremonies in a Scrum project (cf. [Ei09_1]):

Pre-Game: This is the *Sprint planning* where the PO talks with the team about the requirements for the next Sprint (the *big picture*) and answers questions from team members. At the end of the Sprint planning each team member commits himself to the tasks which have to be completed during the Sprint.

In-Game: During a Sprint all team members meet daily for a short period of time⁵ to discuss current topics. These meetings, called *Daily Scrums*, are open to the public.

Post-Game: After each Sprint there is a *Sprint Review-Meeting* as well as a *Sprint Retrospective*. During the review (about 2 hours) the team presents its work to the PO (demonstration). The retrospective can be seen as a lessons learned meeting.

⁵To accomplish this these meetings should be performed as stand-up meetings.

During the Daily Scrum every team member will answer the following three questions:

- What did you do yesterday?
- What will you do today?
- What obstacles are there slowing you down?

It is important to realize that the answers to these questions are commitments to the other team members instead of simple status reports for the team leader.

Large projects involving many teams require a so called *Scrum of Scrums* which takes place once or twice a week and can be seen as a Scrum involving all team leaders.

This process scales quite well to *Scrum of Scrum of Scrums* etc.

The Scrum process revolves around the following main artifacts:

Product Backlog: Contains all requirements prioritized by the PO.

This prioritization will be renewed prior to each Sprint. It also contains time estimations for each entry.

Sprint Backlog: Contains tasks for the current Sprint. Team members select tasks they want to take care of (voluntarily!). Every team member can insert, update and delete entries. Each entry is accompanied by a time estimate for its completion which has to be updated regularly.

Burndown Diagram: Graphical representation of the overall time necessary to complete all tasks during the Sprint. Its first derivative should be negative!

Impediment Backlog: List all obstacles encountered during the Sprint (functional and non-functional obstacles).

- The management has to commit itself to the values of the „Manifesto for Agile Software Development“.
- The management has to work in a „Do not push, let them pull“-style.
- Management has to respect the team members, Scrum Masters and the Product Owner and trust their respective decisions!
- Infrastructure is essential (one room per team – not a single Dilbert-like open plan office – etc.).

Do not even think about doing or allowing the following:

- Constipate many teams into a single, large open plan office! This will severely degrade team performance and is a good recipe for trouble.
- Build teams from people without the ability of taking personal responsibility – the resulting teams will not be able to organize themselves.
- Have people working in teams on a part time basis.
- Have your Scrum Master actively working in a team.
- Distrust your Scrum Master and team leaders.
- Make long Daily Scrums (more than 15 minutes is definitely too long).
- Do not differentiate between persons and problems.
- Enslave your teams to tools like JIRA.



[Ei09_1] Marion Eickmann, „Balance halten, Teil 1: Die Rolle des Product Owner“, iX 8/2009, p. 104–106



[Ei09_2] Marion Eickmann, „Balance halten, Teil 2: Die Rolle des Scrum Master“, iX 8/2009, p. 122–125



[TaNo86] Hirotaka Takeuchi, Ikujiro Nonaka, „The New New Product Development Game“, Harvard Business Review, January-February 1986