

PM WORLD TODAY – PM ADVISORY – OCTOBER 2009

Scrum methodology: 7 common mistakes

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Agile denotes nimbleness, is a light weight development methodology based on iterative development where solutions evolve from tightly collaborated cross functional teams. In early 2000, when many people were having a hard time identifying a methodology to deliver a product quickly and with good responsive index, a group of Industry expert formed an alliance, calling themselves ‘Agile Alliance’. Over two days they worked to create a statement of value, which resulted in the manifesto of agile alliance. Over the next three months they formulated the principle of agility. This manifesto primarily focused on the following aspects:[6]

- 1) Individuals and interactions over process and tools
- 2) Working software over comprehensive documentation
- 3) Customer collaboration over contract negotiation
- 4) Responsiveness to change over following a plan.[1][2]

Scrum Methodology

Scrum is an innovative software agile methodology which has gained significant importance in information technology. The term Scrum originally derives from a strategy in rugby, “getting an out of play ball back into the game” [3]. Takeuchi and Nonaka [4][5] were the first ones to discuss Scrum methodology and its variants in product development with small teams.

Scrum is a disciplined methodology which implements controlled system development. This methodology facilitates higher flexibility to marketing, better adaptability, higher resource productivity, and efficient team environment. Scrum basically underlines the concept of ‘on-demand delivery’. Scrum methodology reduces re-factoring cost, prototype-cost and efficiency-leak cost. Agile process primarily focuses on high interaction, working model, customer collaboration, regular feedback, and flexibility for changing requirements. Scrum methodology can be implemented in three phases: Planning, development and closure phase [5].

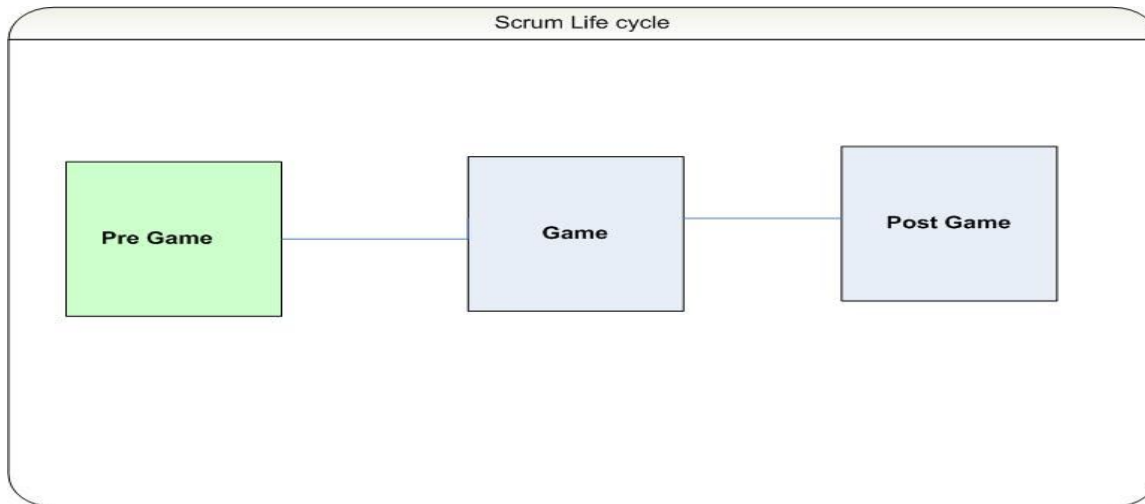


Figure 1: Scrum Life cycle

Scrum can be adopted both in a new project and an existing project. Scrum salient features like: Iterative development, high level accountability, small teams, Regular builds, Configuration management, and frequent monitoring, help in developing a robust system. In practicing Scrum methodology, stakeholders generally commit the following common mistakes, which can hamper the project results.

1) Lack of Free Communication flow

Communication plays a vital role while practicing Scrum. Communication between project members, stakeholders, different scrum teams, and marketing members plays a vital role in successful implementation of the project. Scrum planning meeting, requirement analysis meeting, commitment meeting and daily standup meetings are useful in discussing different dependent factors for a given sprint cycle.

The sprint planning meeting agenda includes identifying tasks and resource estimations for subsequent sprint. Sprint planning meeting is attended by the Scrum master, Product owners, Scrum team, and other interested parties. Sprint requirements analysis meeting associates with agenda of product owner going through list of requirements in product backlog list and providing higher level explanation. Sprint requirement analysis meeting is attended by the Scrum master, Product owners, Scrum team, and other interested parties. Scope of Sprint commitment meeting is to review sprint goals by considering resource availability, risk factors involved, application dependencies and any other factors. Standup meetings are conducted every day by Scrum master to drive a project with pinpoint focus on sprint goals. This meeting helps to track daily updates of sprint tasks, calculate project velocity, and drive the team in a correct direction.

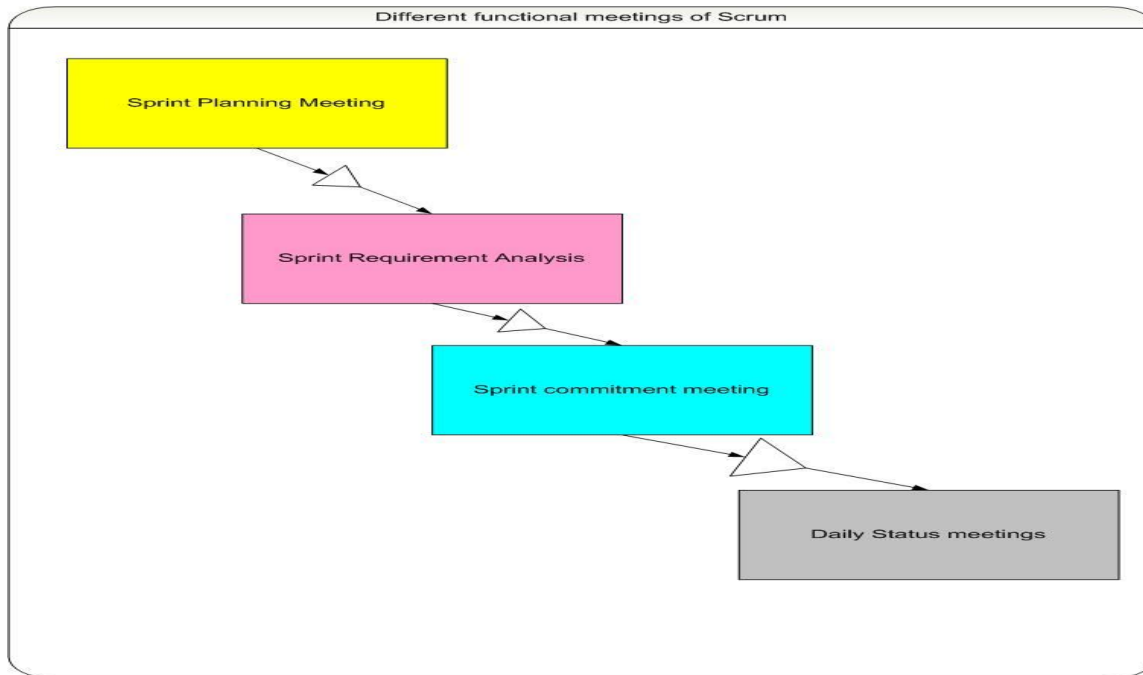


Figure 2: Different Scrum Meetings

Lack of free communication flow among the team members will hamper the results of a project. The Scrum master should take necessary precautions to make sure project day-to-day status, show stoppers, any hurdles, and interdependency must be communicated to all necessary game players.

2) Failure in understanding big picture

Scrum teams are generally of size 4-20 people. A medium to large project has many scrum teams working on cross sprints to deliver a product focusing on business interest. Scrum team generally works on the modular deliverables forgetting about other scrum teams and dependent factors associated with functional modules. Failure to understand the big picture of the project can raise many integration difficulties. Scrum Masters need to take care in order to overcome this kind of myopia.

3) Irregular status meetings

Standup meetings need to be conducted every day by the Scrum Master in order to drive team focus towards sprint goals. This meeting helps to track daily updates of sprint tasks, calculate project velocity, and drive the team in a correct direction. Standup meetings are useful in determining dependent factors, project hurdles at an early state. Standup meetings are generally of 15 -20 min in duration. Meetings are typically conducted at the same location and at the same time every day. Ideally, meetings are conducted during early business hours, which facilitate to utilize the remaining business hours effectively.

The general common mistake of a Scrum team is having either irregular status meetings or missing key stakeholders in a standup meeting. Scrum Master should make sure the standup meeting is conducted regularly on a daily basis and all necessary stakeholders are present for each meeting.

4) Not updating Burn Down Chart

The Burn down chart (BDC) is a consolidated worksheet that has all necessary information about different functional modules, resource estimates and other necessary metrics. Burn down charts have all necessary details about tasks, estimated hours, daily updates, load factor, and project velocity. Burn down charts should be updated daily, tracking day-to-day status of the project. Missing periodic updates of the BDC is a common mistake, which can be avoided by making BDC access available for all team players.

5) Over or under estimation of a features

Sprint estimation occurs before the sprint cycle, during a sprint planning meeting. Based on task estimations and priority of the estimates, features are committed in Sprint commitment meeting. Hence estimation of tasks plays a vital role in the Scrum cycle. Over estimation of tasks reduces resource efficiency and under estimation can hamper the product release. To avoid mistakes of over or under estimation, historical statistics, dependent variables, and resource availability need to be considered while estimating a feature.

6) Not considering Statistical information

Historical data provides good information about project and team capabilities. Though historical information doesn't have a complete set of necessary information for estimating a task, it will provide a better starting point. Project velocity, load factor, and resource utilization are some of the statistical methods that need to be formulated in order to identify the project state. The following statistical methodologies can be used to analyze historical statistics during planning.

Project velocity = \sum Estimates of user stories that were finished in an iteration.

Error Tolerance = (Total burned hours - (Total Estimated hours)

Resource utilization rate = $\frac{\text{Total estimated hours}}{\text{Total development hours}}$

Load factor = $\frac{\text{Total work hours allocated for a given iteration}}{\text{Total development hours}}$

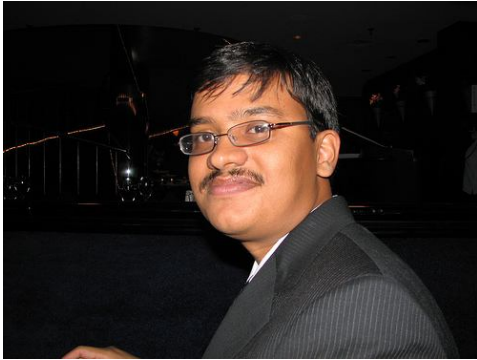
7) Lacking Scrum of Scrum status meeting

A project of medium to large size has many scrum teams working for a business goal. Scrum teams sometimes primarily focus on team functionality, which may cause project myopia. When multiple scrum teams work for a common business goal, a Scrum of scrum meeting has to be conducted regularly to discuss various dependent factors, interdependent features, release dates, and other project specific details.

These are some of the common mistakes which can be avoided with minimal effort and which can reap significant benefits of Scrum methodology.

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