

Question 1: Within the Scrum, who is responsible for Product Backlog? How large a product backlog should be? What is the typical age of any item in the product backlog and under which circumstances these items are re-estimated?

Within the scrum, the Product owner is responsible for managing and maintaining the product backlog. Since a scrum team self-organizes and reevaluates the product backlog, there's no specific value for how large the product backlog should be. But the sprint backlog should be kept in control so that the sprint lasts around one month at max. A product's development lifecycle may consist of various sprints. The typical age of any item in the product backlog isn't defined and generally dependent on the sprint order in which these items will be worked on. If an item isn't handled in the specified priority time, it is reevaluated and if not necessary anymore, rendered obsolete. These product backlog items are ordered according to their priorities and are worked on as such. These age/ priorities are reevaluated when the product requirements change, the direction of the product is being changed or any additional factors are introduced in the item's development. It could also be reevaluated based on changes in the development team.

Question 2: In the latest Scrum Guide'20 what changes/updates have been made as compared to Scrum Guide'10 and what was the need for those updates? What's the motivation behind removing the Daily Scrum questions from the Scrum Guide'20?

There were several changes introduced between the scrum guides in 2010 and 2020. Some major changes are as follows:

- Development teams are not responsible towards a commitment to complete the planned work during the span of the sprint. There's only an estimate of the planned work and an effort is made to finish the work but there's no pressure to finish it if any problems arise.
- There's no reference to chickens and pigs concept anymore.
- There's no specified 3-question format for the daily scrums and it has been generalized towards a wider, more open conversation about the product and it's progress as long as it contributes towards the success of the product. This has been done to promote the communication bottleneck between the team members and allow for more creative freedom in the conversations about a product's progress rather than answering a 3 question survey. Hence, providing more autonomy to the development team and increasing the quality of the product and team's interest in it.
- The definition of the Scrum master's responsibility is also slightly different in this new guide. Rather than being someone who enforces that the scrum rules and guides are followed by the team and the product owner, the scrum master simple acts as someone who helps the members and owner understand the principles and

approach of the scrum. Hence, instead of being a dictator forcing rules and norms onto the members, the definition of the role has been redefined to that of a coach. Hence, making it a more acceptable and respectable role in terms of collaboration and teamwork.

- Introduction of Scrum artifacts is another change where the notion of transparency is promoted amongst the team members and the end goals are presented to all team members in a very visible manner to promote the importance of empiricism and the value of the product. These artifacts include the Definition of Done in case of an item, the goal of a sprint in a sprint or the goal of the product in the product backlog.
- The motivation behind removing the daily scrum questions from the guide in 2020 is to ensure that the frame work remains open for new ideas and approaches and isn't really something that requires all team members to strictly adhere to. Hence, the same meetings may be adapted to teams of all types and all backgrounds to maximize involvement and productivity.

Question 3: What are the potential risks (any three) while using Scrum? How are they handled?

Longer sprint horizons may cause the complexity of the sprint to be too high and hence, the sprint goal might seem invalid. Because of the increased complexity, the goal might deviate from the original one to one where the complexity needs to be handled before the sprint finishes. This is handled by ensuring that the sprint length is kept limited to a maximum of 1 month and that the complexity of the items in the sprint backlog are justifiably completable in the sprint timespan.

The risk of an invalid product may arise from lack of transparency between the team. Since all members of the team are not on the same page about the product, it becomes plausible that the result of the sprint is deviant from the sprint goal. This is handled by introduction of the scrum artifacts where all aspects of the scrum cycle are transparently available to all team members including the development team and the product owner.

The risk of strategies not being revised according to time may lead to smaller sprint increments leading to an entirely different product than what was planned in the first place. Hence, constant daily sprint meetings, sprint reviews and retrospective meetings are held to ensure that things are reevaluated and all priorities revised to keep the product moving in the planned direction.

Question 4: What is Technical Debt? Who is responsible for the technical debt of the project and as a scrum master how would you consider the level of technical debt?

Technical debt is a situation where a bargain in the development strategy to develop something faster rather than in a more scalable way causes the team to spend additional work in future items/ sprints developing other items. This may include developing individual components instead of shared components because it's faster to copy and paste the code and then having to develop components inherited from those components with numerous changes. Although it may be assumed that the product owner is responsible for the technical debt, it isn't actually the case because the scrum team self-organizes and plans their product backlogs and development strategies among themselves. Now although the

product owner is responsible to track the implementation of the product backlog and ensure that sprint goals and hence, the product goals are reached sufficiently, it is the team's and product owner's shared responsibility for the technical debt. As a scrum master, it is suggested that the team remains transparent and aware of the technical debt and adds that to the release backlog or sprint notes to know the gravity of the debt. So, in future scrum meetings if any items to require handling the technical debt, the issue can be handled at a much earlier stage.