

Six Best Practices for Estimating Agile Projects with Story Points

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One benefit of Scrum and other Agile practices is predictability. Predictable Agile teams know their capacity for work, make realistic commitments, and deliver what is expected. But, predictability requires good estimation. Good estimates enable an Agile team to plan sprints well, forecast milestones, and build confidence with end users and other stakeholders.

An Agile team must estimate product backlog items (e.g., stories) accurately to know its capacity for work. Without consistent and accurate estimates, the team's past accomplishments cannot serve as a basis for velocity, which helps the team commit to whatever it can reasonably accomplish in the future. According to the *Scrum Guide*™, "Only what has happened may be used for forward-looking decision-making."

I prefer using points to estimate stories rather than hours. Story points are approximate and relative estimates that a team makes together about the effort required to complete a story. Points should reflect the amount of work involved, its complexity, and any uncertainties. Like shirt sizes (small, medium, and large), point estimates are easier to agree upon than a discrete number of hours because everyone works at a different pace and is at a different competency level. The team should base its story point estimates on reference stories it has completed in the past. Once team members agree on the point values of reference stories, they then assign values to new stories by comparing them with the references. You may find it useful to display the descriptions of reference stories in the planning room.

Other best practices for estimating story points include:

1. **Use non-consecutive point values.** Sufficiently separate the values to make each estimate more clear-cut. Don't split hairs by discussing whether a story is a 9 or a 10! Popular patterns are Fibonacci series (1, 2, 3, 5, 8, 13, 21, etc.) and powers of 2 (1, 2, 4, 8, 16, etc.). Anything estimated above a 16 should be broken into multiple stories and re-estimated.
2. **Stabilize the team.** Don't make important decisions using estimates calculated during the early forming stages of a team's evolution or while members are coming and going. Until a team's membership, estimation process, and velocity stabilize, the estimates will not be accurate.
3. **Get inputs from everyone** (business-layer developers, front-end developers, database developers, testers, etc.). Only the development team (not the Product Owner) can estimate the points but it is important that estimates reflect the perspective of everyone involved in completing the story.
4. **Make informed estimates.** The Product Owner should present the story and acceptance criteria to the development team and answer questions during an interactive backlog refinement meeting. The team should capture any details they need to remember when implementing the story.
5. **Iterate and improve.** Review the team's performance during retrospectives and adjust as needed. Keep the reference stories current and recalibrate stories on the backlog regularly. You can guard against "point inflation" by comparing new estimates with stories estimated in the past.
6. **Don't overthink it.** The team should arrive at a consensus on the points for a story in a reasonable time. Don't try to convert hours to points or vice versa when estimating. However, once story points are assigned, let development team members estimate their tasks in hours.

While the team ultimately decides how to estimate, applying these best practices will help it accurately estimate the amount of work completed in a typical sprint as well as the work left to do. Once the team knows those values, it can accurately estimate the number of sprints or iterations needed to complete the backlog items assigned to a release. And knowing the number of sprints (with the sprint duration) will enable the team to predict release dates and other milestones. Knowing the point value estimates of stories or groups of stories can also help the Product Owner prioritize items on the backlog and determine Return on Investment (ROI).

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