

Is there a Correlation Between Sprint Size, Team Size, and Optimal Sprint Length?

Sprint duration is dependent upon the estimated length of the sprint work items (user stories). My experience shows that the optimal sprint length should be around two to four times longer than an average size of a user story. For instance if your average user story is estimated as three days, then the sprint length you may wish to choose would be somewhere between six and twelve days, so the duration of two weeks can be favored. This will provide the developers with enough time to adjust task distribution and also recover from the unpredictable. (If you are used to estimating user stories in story points, it is possible to convert the estimates into time units quite easily.)

The size of a team should also affect the decision on selecting sprint length. Consider the following: you have a small team of two developers working in two-week sprints; how will an unplanned absence of a developer, say, for a week, affect the sprint success? There is high probability of unfinished work remaining by the end of the sprint (unless the other developer does heroic overtime). If the sprint length had been twice as long, the missing time (one week) could have been worked out easier.

In contrast, the absence of the fifth developer on a five-person team for the same amount of time can be more easily absorbed by the remaining four team members (unless they are already overloaded with the tasks).

Having agreed on the above, the following correlations can be considered when selecting sprint length (Of course, this is very rough and imprecise, but it will give you an idea when you start thinking about sprint length to be used.):

Team Size	Recommended Sprint Length	Examples
1-3	3-5 times the size of an average user story	3 developers, 2-day user stories => 6-10 days per sprint (~2 weeks) 3 developers, 5-day user stories => 15-25 days per sprint (~3-5 weeks)
4-10	2-4 times the size of an average user story	5 developers, 2-day user stories => 4-8 days per sprint (~1-2 weeks) 5 developers, 5-day user stories => 10-20 days per sprint (~2-4 weeks)