Answering Common Questions – Forecasting using Data (Tools and Techniques

These free spreadsheets answer common software development questions. They are all self-contained, with no macros or add-in's required. There are many more available at http://Bit.Ly/SimResources. Follow me on Twitter for the latest news: @t_magennis. Contact me by email if you would like training or consulting in this type of analysis within your company: troy.magennis@focusedobjective.com.

I want to know how big a project is (without analyzing every feature or epic)

Rather then analyzing every feature and epic in a proposed project or feature, estimate the total size by just sampling a few epics and features for size. Use this spreadsheet: Story Count Forecaster.xlsx

I want to know how long this project or feature will take

Before you have team data: Use broad range estimates for size, growth rates and delivery pace. Combine these using Monte Carlo methods to give a range of dates. Use this spreadsheet: Throughput Forecaster.xlsx

After you have team data: Use actual team delivery rate data with estimates size and growth ranges. Combine these using Monte Carlo methods to give a range of dates. Use this spreadsheet: Throughput Forecaster.xlsx

I want to know what features are going to miss a deadline

Using broad range estimates or actual team delivery rate data, forecast what features will complete by a given deadline date to whatever likelihood (probability) you need. Optimize start order to get ensure the most important features make a release. Also, that features at risk are known earlier. Use this spreadsheet: Multiple Feature Cut Line Forecaster.xlsx

I want to know how much work we can complete in a given period of time

If team delivery rate data is available, or if we can estimate it as a range estimate, the number or amount of work likely to be delivered can be calculated using Monte Carlo methods. Use this spreadsheet: Throughput Forecaster.xlsx (lower portion of the forecast worksheet)

I want to know where my teams skill and capacity constraints are

Rapidly survey team members to understand what amount and what level of skills exist on your teams. Use this to understand where more mentoring and training could increase capacity in the most needed skillsets. Use this spreadsheet: Capability Matrix v2.xlsx

I want to calculate the throughput, cycle time and work in progress data from a set of completed story start & finish dates

Create a team dashboard consisting of over seventeen charts, including: throughput, cycle time, work in progress, aging, cumulative flow diagrams. All charts built from Start date, completed date and work type. Use this spreadsheet: Team Dashboard.xlsx

I want to plan across multiple teams and learn what teams are over-burdened delivering various planned feature sets

Capture and calculate the total demand on dependent teams to highlight any teams that are over-allocated and will endure the highest demand and likely be the delivery constraint. Helps determine feature start order to minimize demand hotspots on any team and plan cross team delivery options. Use this spreadsheet: Skill and Dependency Planner.xlsx

I want to know how many defects remain to be found in a releasable product

Using a technique borrowed from biology, have two independent people or groups test for defects. The overlap of defects found allows an estimate of remaining defects. The goal is to give confidence in release readiness earlier. Use this spreadsheet: Latent Defect Estimation.xlsx