Atomic Object Project Tracking and Reporting

Projects are often decomposed and estimated in hours. The budget and key milestones are based on this decomposition. We track and report overall progress by recording actual hours spent and billed according to the project decomposition.

A spreadsheet with key metrics and a burndown chart is updated weekly.

Metrics
Budget usage – fraction of approved budget that has been used.

Budget estimation accuracy – tracks the actual time spent versus the original estimate. If this metric isn’t close to 1 (100% accuracy) then the original budget estimate wasn’t realistic, and the extrapolations of the burndown chart are not meaningful.

Total Work (red) – the total estimated work to be done; unanticipated features or work represents scope increase that is visible by an increasing red line.

Completed (green) – actual work on completed features; extrapolation indicates when the project will complete assuming no further increase in scope (approximately iteration 13 in the sample below).

Remaining (yellow) – total remaining work; extrapolation of the work indicates when the project will complete assuming the scope continues to change as it has historically (approximately iteration 21 in the sample below).
Weekly iterations

An online project management tool (e.g. Strac, ExplainPMT) is used to track development stories, iterations and the backlog.

At the level of the weekly iteration we use a relative scale of effort. Stories are assigned a point value of 1, 2, 4, 8, or 16. Points are not the same as hours.

Iteration planning is more accurate when done in relative points. The development team soon understands what a 1 point story is, and can make a reasonably accurate judgment that a 2 point story is roughly twice as hard as a 1 point story, and half as hard as a 4 point story.

Using points (instead of a more traditional time range) avoids the confusion surrounding reporting progress in terms of hours-of-work-accomplished versus the actual person hours worked and billed. ("We got 60 hours of work finished in 40 hours.")

Using points avoids wasting time on story-by-story estimation accuracy. Accuracy over the course of many iterations matters, the accuracy of any individual story matters less.

Bugs or modifications to features considered by the developers to be complete are recorded as new stories with a new point estimate. They are subject to customer prioritization and scheduling just like any story.

Velocity

The number of points completed during every iteration measures development velocity. Velocity from previous iterations is used to plan future iterations.

Velocity is a sensitive and reactive indicator of potential problems. A decrease in velocity half way through a project is immediately visible in the iteration data whereas it takes some time to show up in the overall progress report.

Stories which are not completed in an iteration count for 0 points in the velocity for that iteration. The points for a story started in one iteration and completed in a subsequent iteration count only for the iteration in which it is completed.