Agile Metrics and Measurement

The secret to delivering graphically rich, timely and accurate project reports
Objectives

• Discuss what agile development is about and why we need it

• Briefly cover agile planning processes

• Provide an overview of key agile metrics and common agile reports
What is Agile?

• Umbrella term to describe a family of lightweight methodologies

• Collectively address the following:
  – Engineering best practices
  – Leadership philosophy
  – Project management methodology
Planning for Uncertainty

- Not all projects are predictable
- Market uncertainty drives change
- The less certain we are about our requirements, the more we need to plan to adapt
- Cost of change is too high in traditional management environments
Why not a Gantt chart?

- Predictive process control fails in uncertain contexts
- Can’t fix time, cost, and scope
- Agile locks time and cost, varies scope
- Change is encouraged
Agile Requirements

- INVEST Model
  - Independent
  - Negotiable
  - Valuable
  - Estimateable
  - Small
  - Testable

- Product backlog
- Prioritize for value and risk
Building in the ability to adapt

- Deliver software in short cycles
- Inspect how things are working
- Inspect quality of working software
- Inspect suitability of what was delivered
- Adjust as necessary
Relative Estimating

- Story Points
- Ideal days
- Planning poker
Understanding Velocity

- Velocity measures the throughput of the team
- Defined as ‘units completed’ in a given cycle
- Unique to the team and the people on the team
Agile Planning Cycles

- Strategic planning
- Release planning
- Iteration planning
- Daily planning
Burndown Graphs

- Release burndown
- Sprint burndown
- Lag indicators and lead indicators
Cumulative Flow Diagrams

• Adds the dimension of scope to the chart
• Now we see how items are moving through status, total complete against the total scope of the project
Velocity Trend

- Past performance is an indicator of future performance
- Velocity should stabilize over time
Defect Trends and Test Count

- Test trends
- Defect trends
- Impact of test coverage and defects on team performance
Putting it all together

Burndown - Remaining Estimate
- Open Estimate
- Ideal

Trend - Total Estimate
- Closed Estimate
- Open Estimate

Velocity (Estimate per Sprint)
Month A 1st Half - Month C 2nd Half
- Total

Trend - Test Count by Status
- (None)
- Failed
- Passed
Real time...

- Small teams and white boards
- Larger teams with agile tooling
- Data updated constantly and kept visible to the entire team
- Daily standup meetings
- Shared accountability
...and Accurate!

- Done vs. percent complete
- Measures real progress and is not subjective
- Can see exactly where we are against baseline
Summary

• Agile methods embrace change and allow for uncertainty
• Structured around short planning cycles and constant visibility, inspection, and adaptation
• Agile metrics and reports give constant real time visibility into project performance
Questions?