Lessons Learned Using Agile Practices with TSP

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Agenda

Background

Project Planning Practices

Engineering Practices

Focus on Teams

Background

- First exposure at SD West 2001
- Certified Scrum Master
- Certified Scrum Product Owner
- Certified Scrum Practitioner
- Scrum Developer

Context

- Started incorporating Agile Practices in TSP in 2005.
- The purpose of this presentation is to share lessons learned.
- The point of view is from a TSP Coach perspective.
- There are several agile methods: we have focused on Scrum for project management, and Extreme Programming (XP) for engineering practices.

Agile Matures

- In the beginning, Agile was well, sort of extreme.
- It is now more mature.
- Agile is NOT a fad
  - Being used by leading software companies
  - Taught in universities
  - IEEE Software, IEEE Computer, Communications of the ACM
  - Conferences, courses, books, research
  - Expanding to other knowledge work

Scrum Practices

Scrum	TSP
User Stories	
Release Planning	Launch
Sprint Planning	Re-launch
Sprint Retrospective	Cycle PM
Project Retrospective	Project PM
Sprint Demo	
Daily Standup	
	Weekly Status Meeting
	Checkpoints

User Stories

- Requirement need statements, along with acceptance criteria.
- Very effective method to capture user needs.
- Prior to the launch, we now conduct a user story session.
  - Team members and product manager attend.
  - Team is trained in how to write user stories.
  - Stories are prioritized.

Lessons Learned

- Launches go much more smoothly.
- Conceptual design is still needed for estimation.

Other Changes

- Integrated teams
  - At least developers and testers
- Daily standups
  - Not needed throughout the project
- Short iterations, but not timeboxed

End of Iteration

One day for

- Retrospective (qualitative and quantitative)
- Relaunch
- Meeting 9 with stakeholders
  - Share results of just finished iteration
  - Demo
  - Goals for next iteration

Pluses and Minuses

- What has worked well
  - Integrated teams
  - User stories
  - Short iterations
  - End of iteration demo
  - Stakeholder involvement in every relaunch
- What did not work well
  - Detailed estimates directly from user stories
  - Burn-down charts
  - Daily standups
- Bottom line – this is still TSP, with modifications supported by the framework.

Engineering Practices - Design

- BDUF (Big Design Up Front)
- YAGNI (You Aint Gonna Need It)
- Don’t go there!
  - We tried emergent/just-in-time design on several projects.
  - Did not work one single time.
  - Design, design, design!

Engineering Practices – Unit Test

- Automated unit tests
  - With coverage measured
  - And with continuous integration
- Code readability and maintainability improves.
- Prototyping new functionality becomes easier.
- Be aware that
  - We found no correlation between code coverage and system test defect density
  - You write 1-2 lines of unit test code for every line of production code.
  - Effort required to go beyond 80% coverage does not seem worth it.

Considerations

- Don’t mess with TSP quality framework.
- Don’t mess with TSP process framework (definition of Done)*.
- Update quality profile.
- Tool support.

*Interview with Ken Schwaber.
http://s3.amazonaws.com/hanselminutes/hanselminutes_0119.pdf

Call to Action

- One reason for the popularity of Agile methods is the focus on the human aspects of programming: teams, individuals, social interactions, self-managed.
- This is also the essence of the TSP. Why don't we talk about this more? Have we focused too much on data/mechanics?
  - We augment every class we teach with the team/human aspects of the TSP.

Summary

- Adding agile practices to TSP has provided benefits.
- You will never be able to accommodate "religions": be prepared to walk away.
- Stay true to the principals of the TSP.

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