Tracking Productivity

Hui Chen [a]

[a]CUNY Brooklyn College, Brooklyn, NY, USA

March 3, 2022

Outline

Outline

Topics in Last Class

1. Overview of requirement engineering
2. Agile vs. traditional (plan & document)
3. An agile approach of requirement analysis
   ▶ Behavior-Driven Development (BDD)
   ▶ UI sketches and storyborads

Outline

Productivity of Agile Teams

▶ We want to avoid head-heavy planning in Agile. Can we estimate effort/time without a plan?

▶ Can User Stories be used to measure progress on project?

▶ What should a tool do to help measure progress for Agile?

Outline

Measuring Productivity

▶ A measure of team productivity using user stories – calculate average number of stories completed per week?

▶ However, some user stories are much harder than the others

    ▶ Rate each user story in advance on a simple integer scale (points)

    ▶ Velocity:
    `average number of points / week`

Points	Difficulty
1	straightforward stories
2	medium stories
3	complex or difficult stories

About Velocity ...

▶ Can't compare velocity across teams

▶ Does not matter if velocity is 5 or 10 points per iteration

▶ What matters is to aim for it to be team consistent, and to to improve self-evaluation and suggest number of iterations for feature set

Outline

User Story Burndown Charts

Use a burndown chart to watch out for Anti-patterns like:

▶ The team finishes early user story after user story because they aren't committing to enough work.

▶ The team misses their forecast user story after user story because they're committing to too much work.

▶ The burndown line makes steep drops rather than a more gradual burndown because the work hasn't been broken down into granular pieces.

Reference:

https://www.atlassian.com/agile/project-management/metrics

Outline

Agile Project Tracking Tools

Features of typical Agile project tracking software

- ▶ Prioritize user stories by where place them in Current, Backlog, Icebox panels – When completed, move to Done panel
- ▶ Developers push Finish, send to Product Owner – Owner tries story and then Accepts or Rejects
- ▶ Can add logical Release points, so can figure out when a Release will really happen
- ▶ Remaining points/Velocity

Example Tools

- ▶ Atlassian JIRA
- ▶ CA Agile Central
- ▶ Pivotal Tracker
- ▶ Trello
- ▶ Github Issues

Outline

Summary

Angile project tracking

- ▶ Velocity
- ▶ Burndown chart
- ▶ Tools

Outline

"Engineering Software as a Service" by Armando Fox and David Patterson (2nd Edition)
"Essentials of Software Engineering" by Frank Tsui, Orlando Karam, and Barbara Bernal(4th Edition) (Section 7.3.5)