Scrum Overview

By

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We're losing the relay race

"The… 'relay race' approach to product development…may conflict with the goals of maximum speed and flexibility. Instead a holistic or 'rugby' approach—where a team tries to go the distance as a unit, passing the ball back and forth—may better serve today's competitive requirements."

Hirotaka Takeuchi and Ikujiro Nonaka, "The New New Product Development Game", *Harvard Business Review*, January 1986.

Scrum in 68 words

- Scrum is an agile process that allows us to focus on delivering the highest business value in the shortest time.
- It allows us to rapidly and repeatedly inspect actual working software in two three week sprints (iterations) for us.
- The product owner negotiates priorities with the team.
- Teams self-organize to determine the best way to deliver the highest priority features.
- Every sprint anyone can see real working software

Scrum origins

- Jeff Sutherland
  - Initial scrums at Easel Corp in 1993
  - IDX and 500+ people doing Scrum
- Ken Schwaber
  - ADM
  - Scrum presented at OOPSLA 96 with Sutherland
  - Author of three books on Scrum
- Mike Beedle
  - Scrum patterns in PLOPD4
- Ken Schwaber and Mike Cohn
  - Co-founded Scrum Alliance in 2002, initially within the Agile Alliance
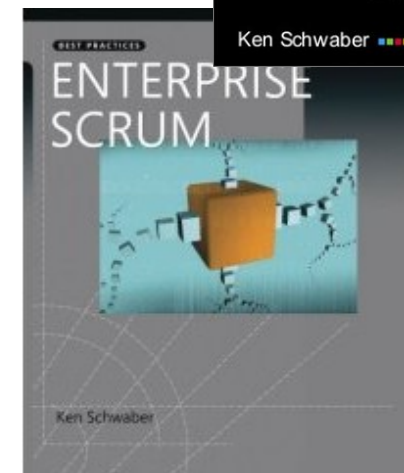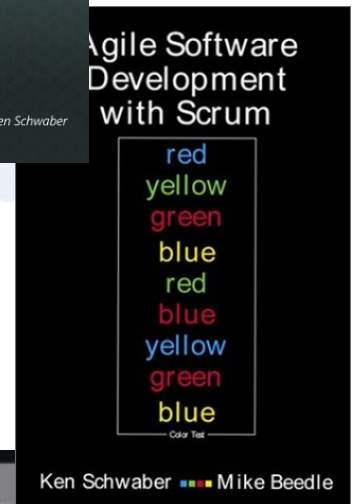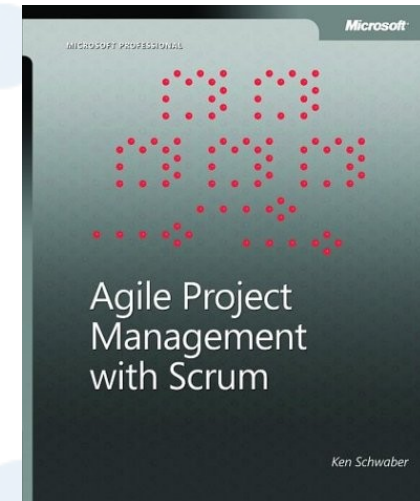
Scrum has been used by (at least):

- Microsoft
- IBM
- Yahoo
- Google
- Electronic Arts
- High Moon Studios
- Lockheed Martin
- Philips
- Siemens
- Nokia
- Capital One
- BBC
- Intuit

- Amazon
- Intuit
- Nielsen Media
- First American Real Estate
- BMC Software
- Ipswitch
- John Deere
- Lexis Nexis
- Sabre
- Salesforce.com
- Time Warner
- Turner Broadcasting
- Oce

Scrum has been used for:

- Commercial software
- In-house development
- Contract development
- Fixed-price projects
- Financial applications
- ISO 9001-certified applications
- Embedded systems
- 24x7 systems with 99.999% uptime requirements
- the Joint Strike Fighter

- Video game development
- FDA-approved, life-critical systems
- Satellite-control software
- Websites
- Handheld software
- Mobile phones
- Network switching applications
- ISV applications
- Some of the largest applications in use

Characteristics

- Requirements are captured as items in a list of "product backlog" *our requirements in the specs*

- Self-organizing teams

- Product progresses in a series of "sprints" *iterations*

- Product is designed, coded, and tested during each sprint

- Uses generative rules to create an agile environment for delivering projects

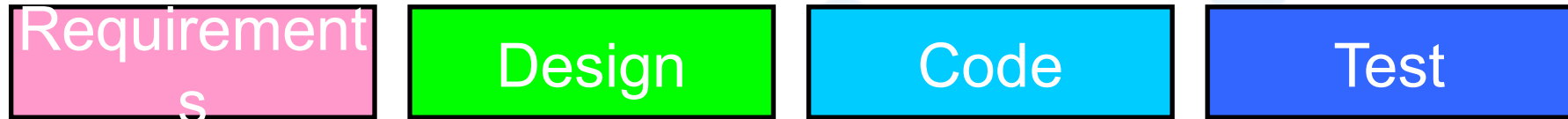- One of the "agile processes"

Putting it all together

Image available at
www.mountaingoatsoftware.com/scrum

Sequential vs. overlapping development

Requirements	Design	Code	Test

> Rather than doing all of one thing at a time...

> ...Scrum teams do a little of everything all the time
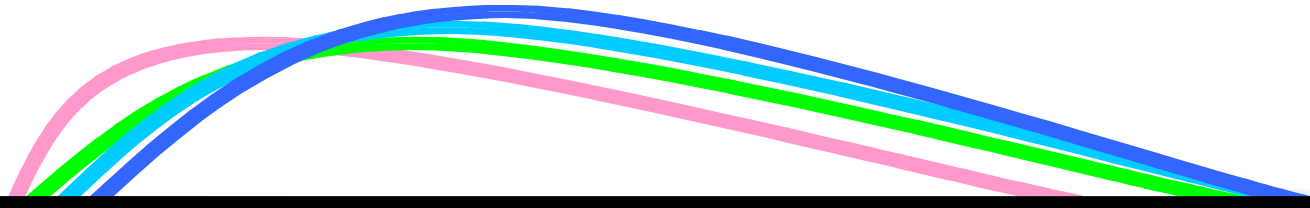
No changes during a sprint
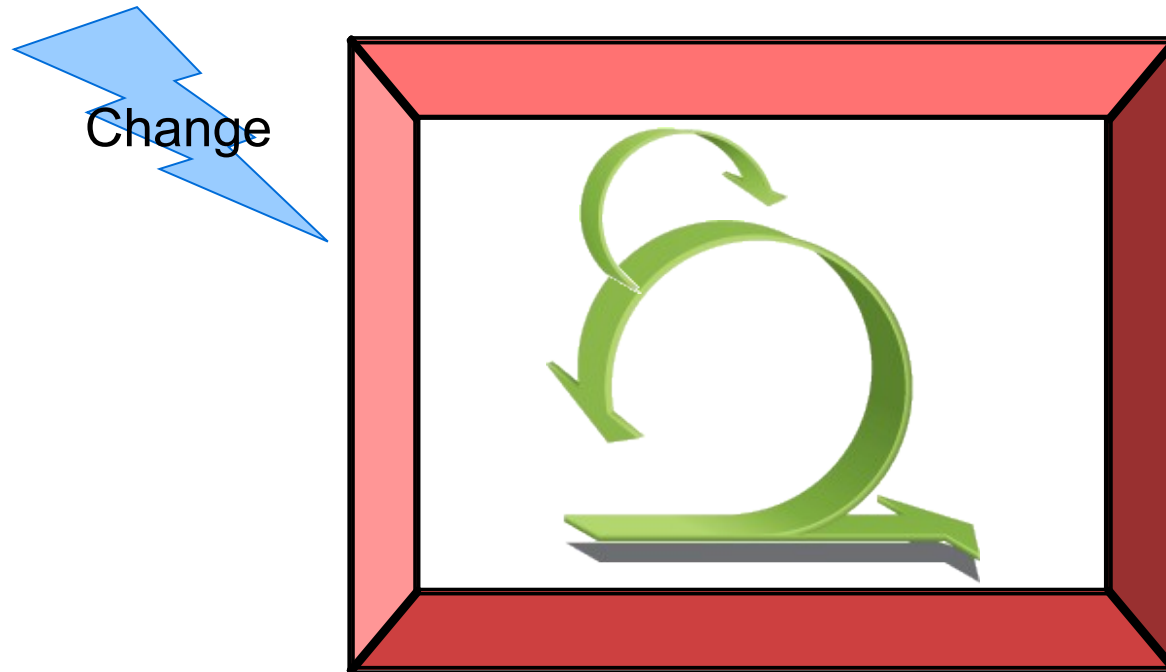
Change

- Plan sprint durations around how long you can commit to keeping change out of the sprint

Scrum framework

Roles
- Product owner
- ScrumMaster
- Team

Meetings
- Sprint planning
- Sprint review
- Sprint retrospective
- Daily scrum meeting

Components
- Product backlog
- Sprint backlog
- Burndown charts

Scrum framework

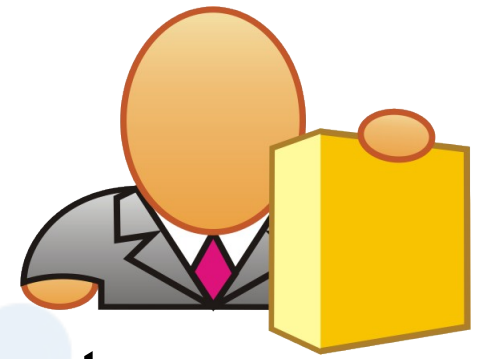## Roles

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Product owner *manager*

- ## Define the features of the product
  specification

- ## Decide on release date and content *14-Dec*

- ## Be responsible for the profitability of the product (ROI) *which 335 need not do*

- ## Prioritize features according to market value *what you're supposed to learn in 335*

- ## Adjust features and priority every iteration, as needed *not in 335*

The ScrumMaster *Rick and SLs, sort of*

- Represents management *UofA* to the project

- Responsible for enacting Scrum values and practices *summarized in grading criteria, schedule, meetings*

- Removes impediments *respond if things are getting in the way*

- Ensure that the team is fully functional and productive *summarized in grading criteria, schedule, meetings*

- Enable close cooperation across all roles and functions *meetings*

The team

- Typically 5-9 people *four or 3*

- Cross-functional:

  - Programmers, testers, user experience designers, etc. *If this is the case, it was by luck*

The team

- Teams are self-organizing *definitely in 335*
  - Ideally, no titles but rarely a possibility
- Membership should change only between sprints *hopefully this does not happen in a 2 sprint project*

Scrum framework

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Product backlog, or the requirements from your specs

Sprint planning meeting

Prioritize

- Analyze and evaluate product backlog

Selected requirements to be completed in iteration one

We did this just once, it's just 6 week project after all

Sprint planning

- Decide how to do it

You created tasks needed to complete the requirements

Sprint Backlog
our iteration requirements

Sprint planning

- Team selects items from the requirements they can commit to completing *we did this for you (see final project page)*

  - Select the most important requirements from the product backlog that you think you can complete in a Sprint *iteration*

- High level design is considered *iteration 1*

As a vacation planner, I want to see photos of the hotels.

Code the middle tier (8 hours)
Code the user interface (4)
Write test fixtures (4)
Code the foo class (6)
Update performance tests (4)

What's Happening now?

- Building something *working on those tasks*

- Team should be in the same room *ideally*

  - Doing different things

  - Communicating

  - No hiding or promising to do something that won't get done

The Daily Scrum

- At start of day ~~*team meeting*~~

- Time Boxed: n minutes

- Stand-up: to keep it short

- Not for problem solving, which comes later

  - Whole world is invited ~~*PM and team only*~~

  - Only team members, ScrumMaster, product owner, can talk

- Helps avoid other unnecessary meetings

Everyone answers 3 questions

1

What did you do yesterday?

2

What will you do today?

3

Is anything in your way?

- These are *not* status updates for ScrumMasters

  - They are commitments in front of the team

The work

- Show me the code
- Do it in with team
- Program solo or pair
- Ask questions of team
- Complete tasks you promised you would do

Tasks

- Individuals sign up for work of their own choosing during the Sprint Review *your email to your PM*

    - Work is never assigned

- Track the progress of tasks with a Task Board

    - Defined ⇄ In Progress ⇄ Completed

- Can add, change, or remove tasks

- Update time remaining daily

- When complete, mark the task as complete

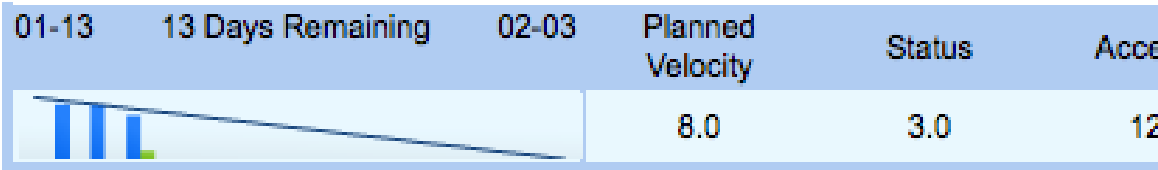- Track progress with a burn down chart

Can use sticky notes or Rally *next slide*

Iteration Task Status

|	01-13	13 Days Remaining	02-03	Planned Velocity	Status	Acce
				8.0	3.0	12

All	Rank ▲	ID	Name	State	Plan Est	Task Est	To Do
⊞ ⊟		#		All	8.0	25.4	21.0
⊟ ✛		US7	Course Overview	D P C A	1.0	1.0	0.0
	✛	TA7	Poll Students about Project Ideas	D P C		0.2	0.0
	✛	TA4	Read syllabus with class, questions?	D P C		0.2	0.0
	✛	TA5	Take Polls: Have a Project Idea? Intended Platforms?	D P C		0.2	0.0
	✛	TA33	Put User Stories in an Iteration on Rally	D P C		0.2	0.0
	✛	TA34	Bahador motivates for 5 minutes	D P C		0.2	0.0
⊟ ✛		US8	Scrum Framework Overview	D P C A	1.0	5.2	1.8
	✛	TA11	Prepare Lecture Outline	D P C		4.0	1.0
	✛	TA8	Overview Scrum and why it can be good	D P C		0.2	0.2
	✛	TA9	The Three Scrum Roles	D P C		0.2	0.2
	✛	TA10	The Four Scrum Meetings	D P C		0.2	0.2
	✛	TA12	Teams buy Scrum Components, an activity	D P C		0.2	0.2
	✛	TA13	Show TaskBoard	D P C		0.4	0.0
⊞ ✛		US9	Scrum Workflow	D P C A	1.0	3.8	3.8
⊞ ✛		US10	Scrum Simulation (Lights, Camera, Action)	D P C A	3.0	9.0	9.0
⊞ ✛		US11	The Capstone Project	D P C A	2.0	6.4	6.4

Iteration Burndown
CSc: The First 3 Weeks - The One and Only Iteration

Legend:
- Task To Do (Hours)
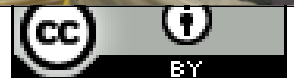- Ideal
- Accepted (Points)
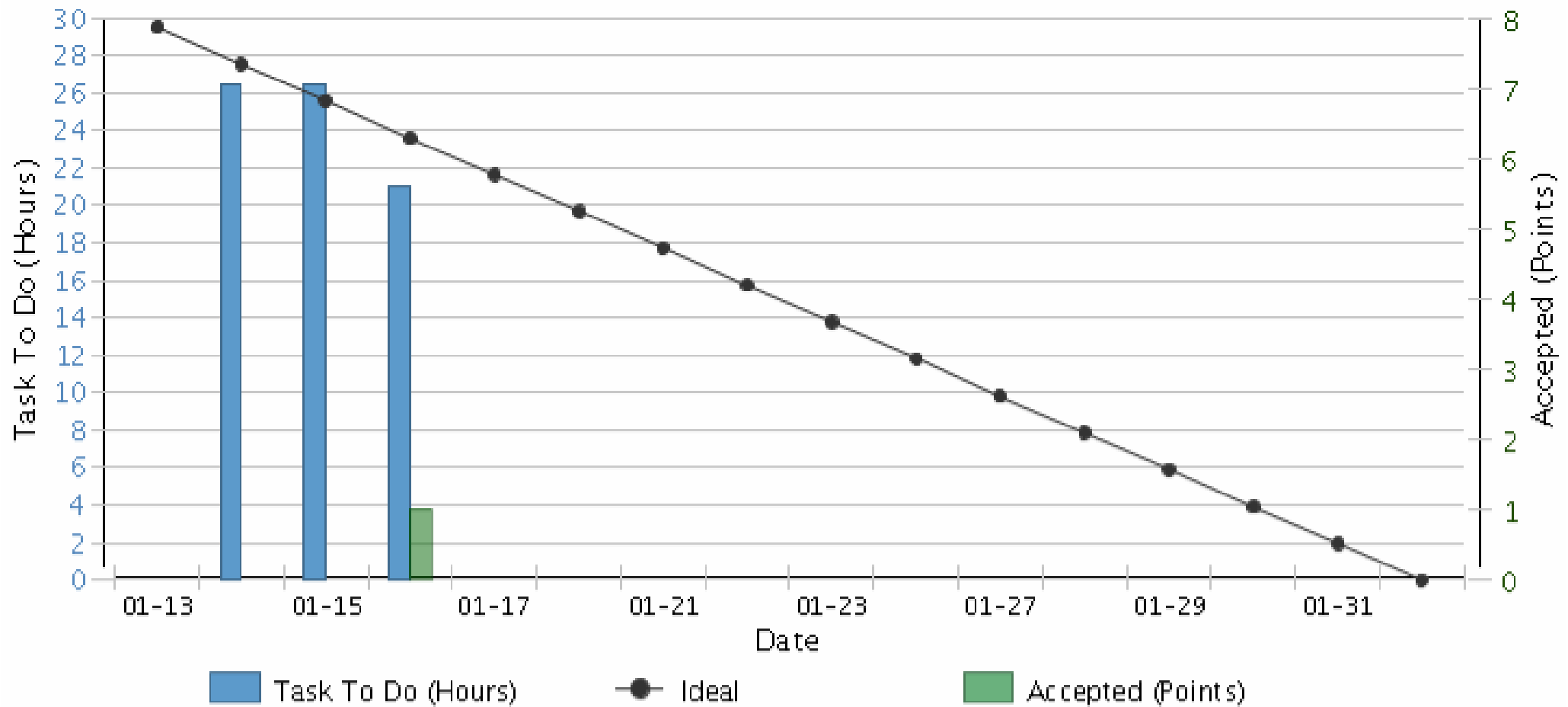
A hand drawn burn down chart
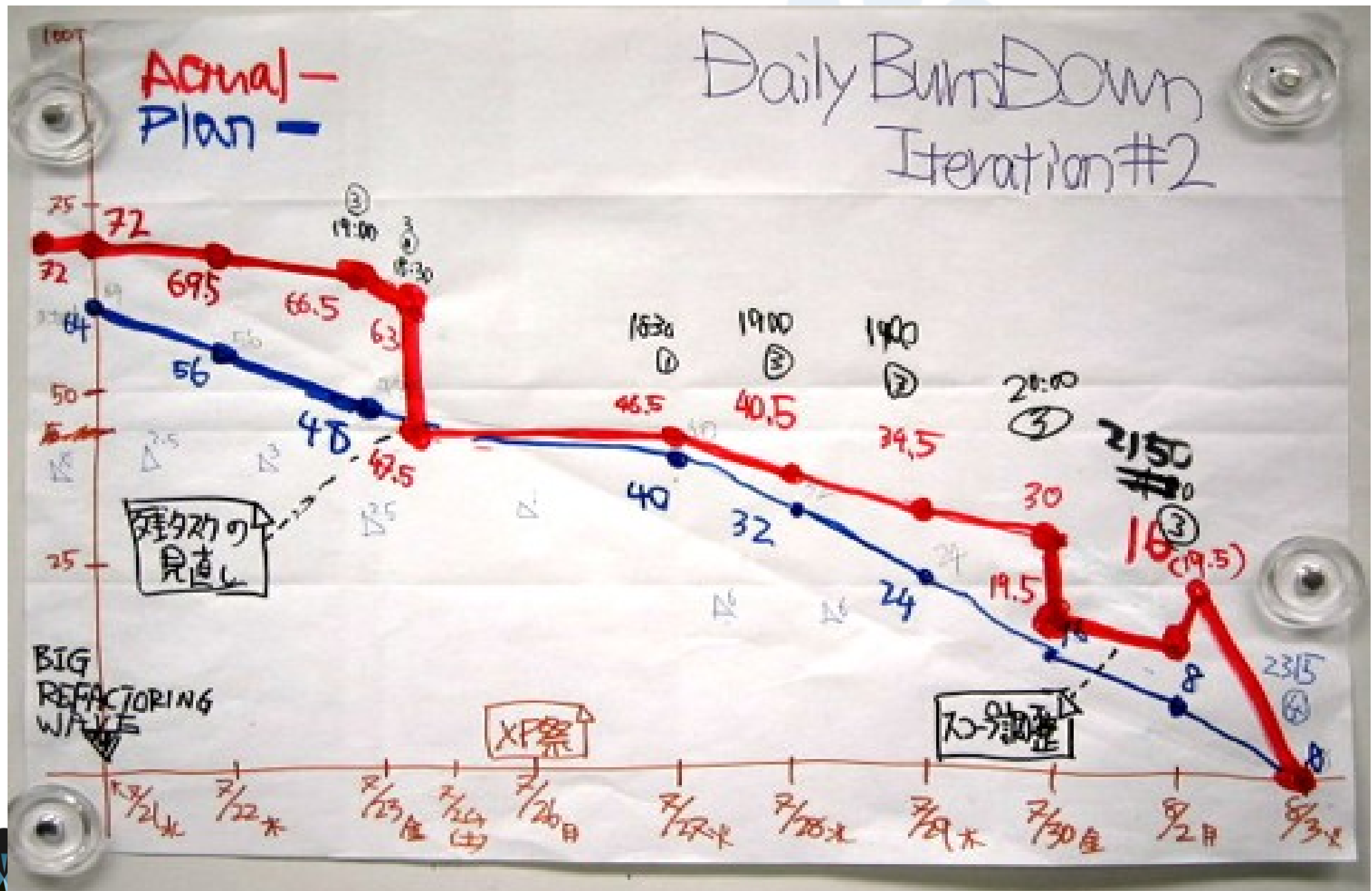
The Sprint review *live grading with PM?*

- Team presents what it accomplished during the sprint
- Typically takes the form of a demo of new features or underlying architecture
- Informal
  - Time boxed
  - No powerpoints
- Whole team participates
- Invite the world *team and PM only*

Sprint Retrospective *we'll skip this*

- At the end of sprint take a look at what is and what is not working
- Time boxed *10 minutes*
- Whole team participates *PM and team only*
  - ScrumMaster
  - Product owner
  - Team
  - Possibly customers and others

Start / Stop / Continue

- Whole team gathers and discusses what they'd like to:

Start doing

Stop doing

Continue doing

This is just one of many ways to do a sprint retrospective.

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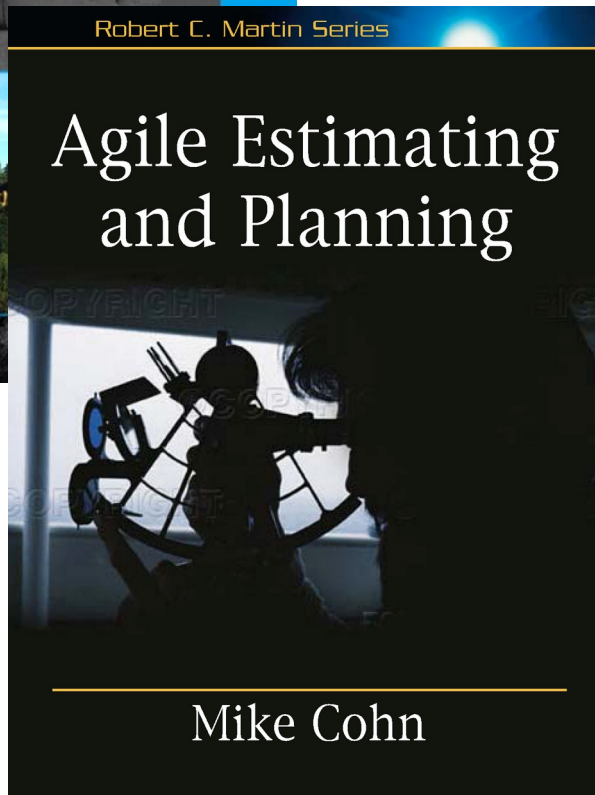
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