

Using Scrum in Design



PIC



PM



Sr. ID



designer



designer



Jr. ID



structural



MEP

Background

50,000 sf / 40 bed medical rehab hospital

Arch/ID team split between Boulder and SF,
consultants in CA, CO, ID, AL

Scrum implementation focused on:

collaborative planning w/ relative estimating

2-week sprints

information saturation

Kanban for visual management

(continuous improvement)

(deliver value early and often)

(team autonomy)















sprints set the tempo

more value with less effort: 80% of value is in 20% of features

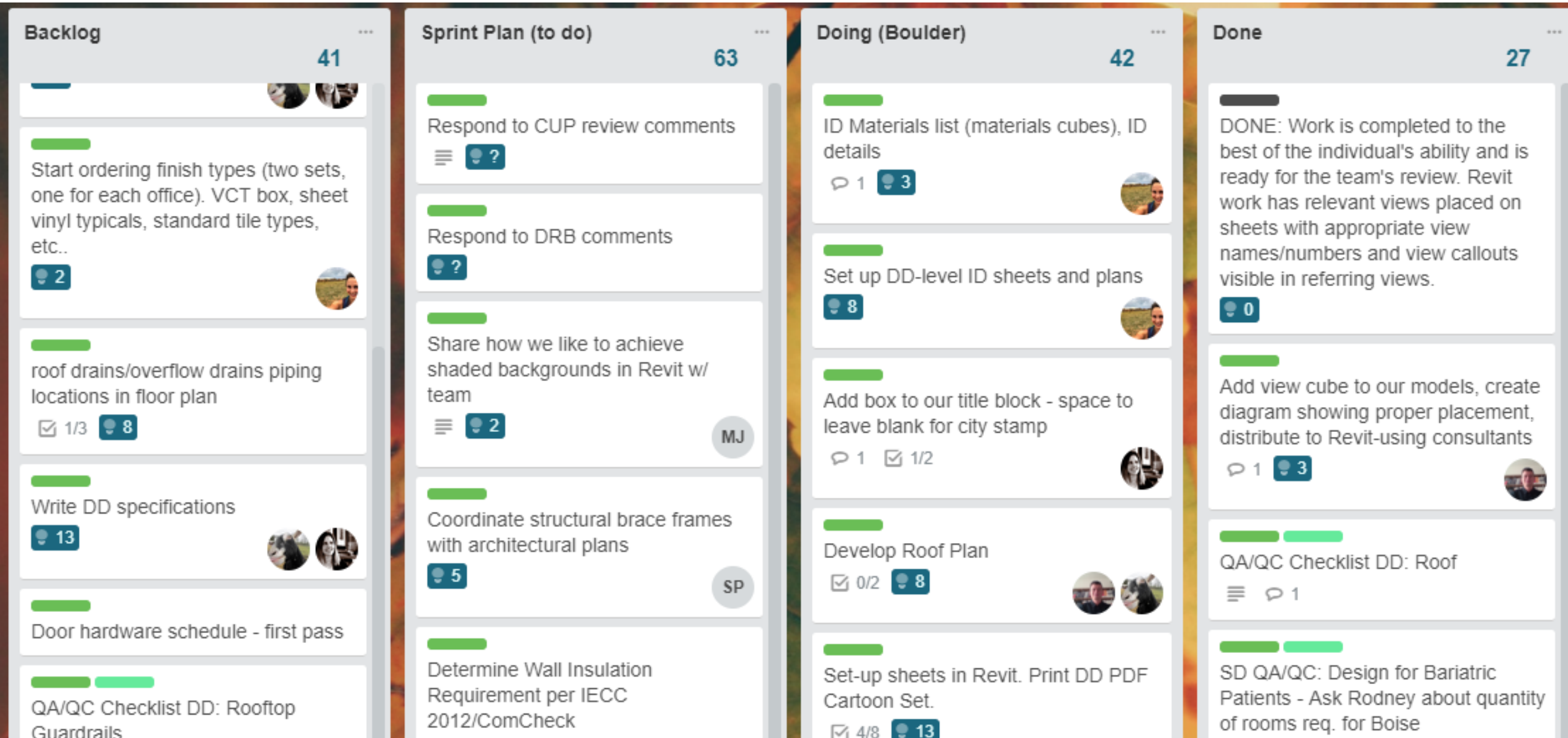
break work into sprints

release value to customer each sprint

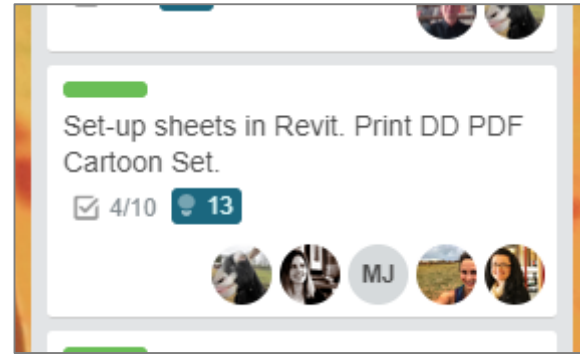
stop when desired value is reached

M	Tu	W	Th	F	M	Tu	W	Th	F
 retrospective & sprint planning (2:00)	 standup (:15)	 standup (:15)  demo (1:00)	 standup (:15)	 standup (:15)	 standup (:15)	 standup (:15)	 standup (:15)	 standup (:15)	 standup (:15)  demo (ideal)

kanban keeps us aligned (limits WIP)



improved team dynamic



great teams are autonomous, empowered, and small
manager as facilitator: sets what and why, but not how
information saturation: secrecy is poison

(13) Set-up sheets in Revit. Print DD PDF Cartoon Set.
in list [Doing \(Boulder\)](#)

Members

MJ + [Boulder Assoc.](#) +

Labels

Last Updated

6 minutes ago

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☒ **Checklist** [Hide completed items](#) [Delete...](#)

40%

- ☒ *Create Floor Plan Scope Boxes to divide the views and place on sheets*
- ☒ *Update Key Plan for Areas A-I*
- ☒ *Place elevations, bldg sections*
- ☒ *create other plans (1/8" & 1/4" & FLS, siteplan, etc.) & RCP views (inc'l ID views) & put on sheets*
- ☐ Place wall sections on sheets
- ☐ Pull in standard partitions sheet
- ☐ Add sheet and place enlarged plans
- ☐ Create Door and Window placeholder sheets, pull on door schedule
- ☐ Create SD ID Sheets in Revit (Sabrina/Tatiana)
- ☐ publish into BB Studio session

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What do these buildings have in common?



Montreal Olympic Stadium



Sydney Opera House



Denver Int'l Airport

What do these buildings have in common?



Montreal Olympic Stadium

plan	1972	\$134M
actual	1987	\$264M
delta	+15 yr	197%



Sydney Opera House

plan	1963	\$ 7M
actual	1973	\$102M
delta	+10 yr	1457%



Denver Int'l Airport

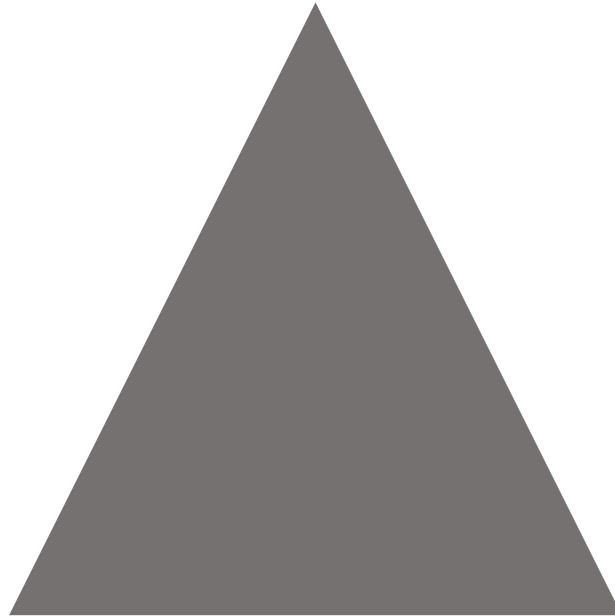
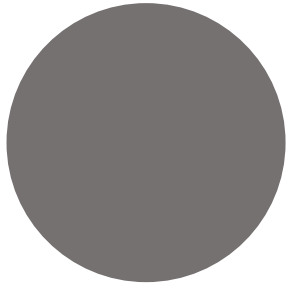
plan	1993	\$2.8B
actual	1995	\$4.8B
delta	+2 yr	171%

...

Humans are *innately bad*
at estimating absolute time and cost

Relative estimating

Which has smallest area? Largest? By how much?



Relative estimating

Which task is smallest? Largest? By how much?

cook mac-n-cheese
from a box



cook mac-n-cheese
from scratch



plan & cook an epic
Thanksgiving dinner



Planning Poker

1. Task owner describes task, brief Q&A
2. Estimate: **Everyone** plays a card **at the same time** to represent relative size of task.
Size includes both **effort and uncertainty**.
Estimates are unitless & use Fibonacci series or tee-shirt sizes (S, M, L, XL)
3. High and low estimators get on soap box to justify their estimates. Brief discussion.
4. Repeat until consensus emerges.



Planning Poker to understand the work

planningpoker.com 1 Settings Todd Henderson ▾

Coordinate process for designing, detailing, & specifying AESS w/ LBYD

Reset Cards Flip Cards Previous Next Story Edit details ⓘ Edit Score

5 3 3 2 3 3

Todd jimsiedler Leslie Tatyana Le... JAKE Sabrina

5 5

0 ½ 1 2 3 8 13 20 40 100 ? Pass

Active Spectator

STORY # 3/17

#	Story	Score
1	Coordinate Mechanical Screen and equipment w/ SSOE	-
2	Coordinate process around defining roof slopes & setting TOS w/ LBYD	-
3	Coordinate process for designing, detailing, & specifying AESS w/ LBYD	-
4	Plan first li'l bigroom session	-

+ Add a Story

Results End Game

Why use Planning Poker

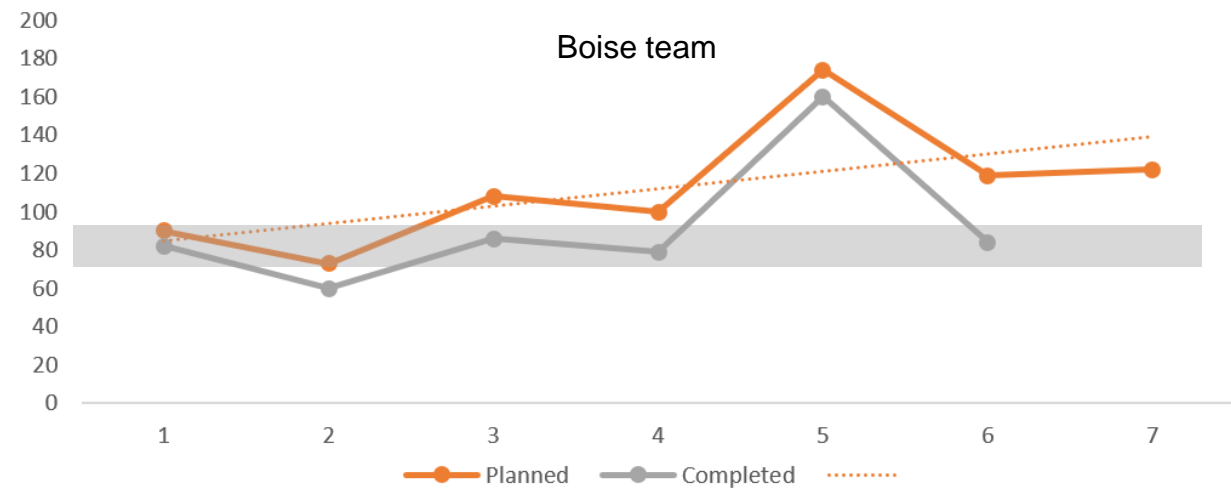
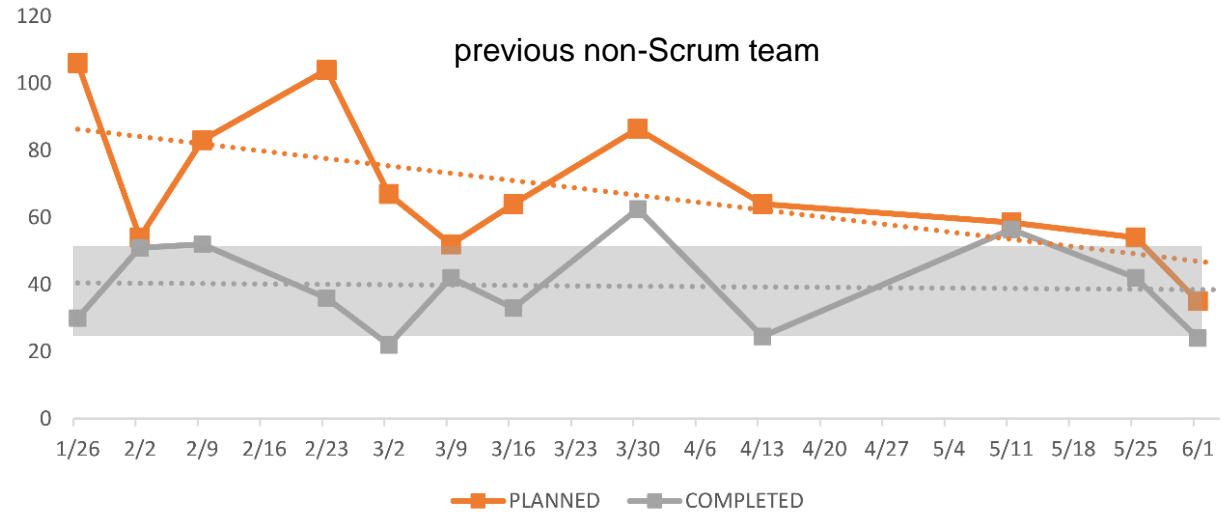
Fun, **engaging**, brisk, focused ... a game

Fosters great **communication**

Everyone participates, bridges experience gaps

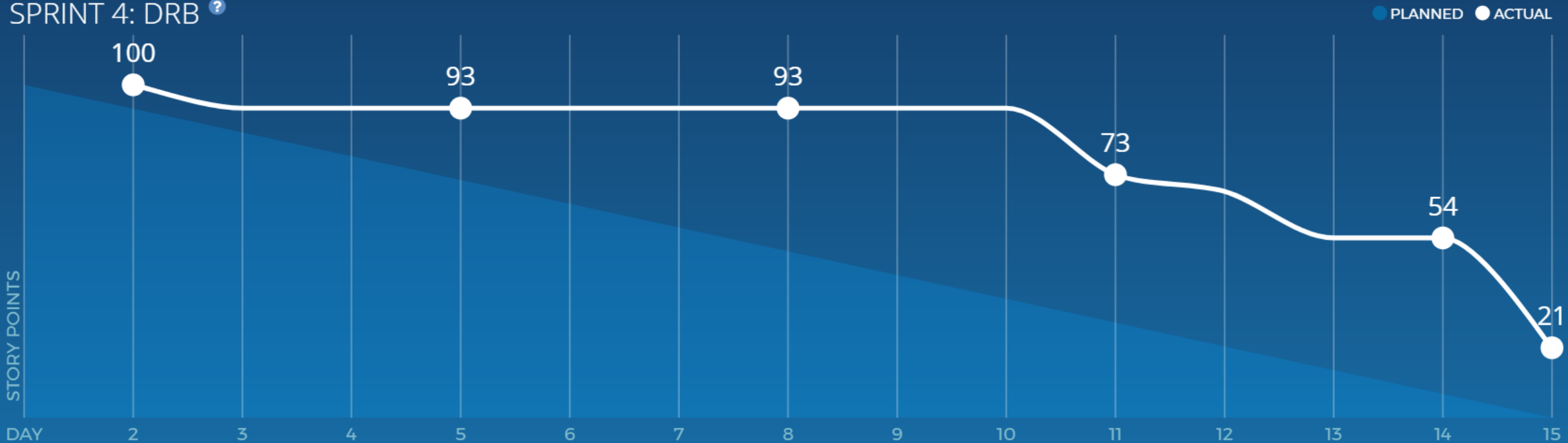
Makes us **estimate the work itself** (instead of pressure, groupthink, priority, or wishing)

Lets team evaluate its capacity & plan accordingly



Burndown charts track progress

SPRINT 4: DRB ?



Daily standups keep us connected

What did you do **yesterday** to help the team complete the sprint?

What will you do **today** to help the team complete the sprint?

What **obstacles** are in your way?

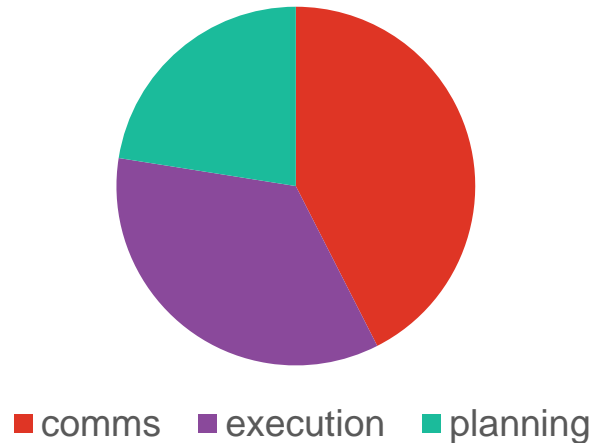
Product demonstrations keep us honest





Sprint retrospectives drive improvements

plusses & deltas



Plusses (Keep Doing)	Deltas (Let's Try)	Action items in play
<p>sprint 1</p> <p>SM: Daily standups -- effective, time-efficient</p>	<p>sprint 1</p> <p>LL: Floor plan card: too big (fourty). Break-down into smaller tasks.</p>	<p>sprint 1</p> <p>Fix GTM invites: everyone a co-organizer & anytime meeting.</p>
<p>sprint 1</p> <p>TH: Team autonomy FTW! Sabrina jumped-in on a task.</p>	<p>sprint 1</p> <p>LL: When is the right time to delve deeper into a topic (b/c not at daily standup)?</p>	<p>sprint 1</p> <p>Plan a sprint-end deliverable of value each sprint. Sprint 2: Bring internal team up-to-speed w/ recent changes.</p>
<p>sprint 1</p> <p>SM: Skype good for quick interactions.</p>	<p>sprint 1</p> <p>TH: Bit off more than we could chew. (82% completion of story points.) But, most important stuff did get done.</p>	<p>sprint 1</p> <p>Save-off a record of project status @ end of each sprint (pdfs, etc.)</p>
<p>sprint 1</p> <p>TH: Happy to see team embracing Trello / Trello being worthy of embrace</p>	<p>sprint 1</p> <p>TH: No more vacations. Period.</p>	<p>sprint 1</p> <p>Limit tasks to 20 points max.</p>
<p>sprint 1</p> <p>LL: Tasks clearly outlined made it easy to prioritize work. (Planning Poker & Trello & exquisite project management!)</p>	<p>sprint 1</p> <p>TH: GoToMeeting difficulties. (Need to use anytime meeting # and make all of us co-organizers.)</p>	<p>sprint 1</p> <p>Define what we mean by "Done." (Start with Tustin's definition.)</p>
<p>sprint 1</p> <p>LL: Inter-office teamwork going well b/c Trello, Daily Standups, CCing each other on emails, etc.</p>	<p>sprint 1</p> <p>SB: Not involved in much yet.</p>	<p>sprint 2</p> <p>Sprint 2: JS: make tasks more defined/less ambiguous.</p>
<p>sprint 1</p> <p>LL: Continue to describe tasks such that they're achievable within each Sprint (Planning Poker FTW)</p>	<p>sprint 1</p> <p>TH: SB/LL didn't know what FTW meant. Sad! (For The Win, kids.)</p>	<p>sprint 3</p> <p>Sprint 3: Boulder crew pinup drawings and ask for post-it note answers to specific questions. Share what they get. SF crew hold live crit and share what they get.</p>
	<p>sprint 2</p>	

Reflection: Δ 's

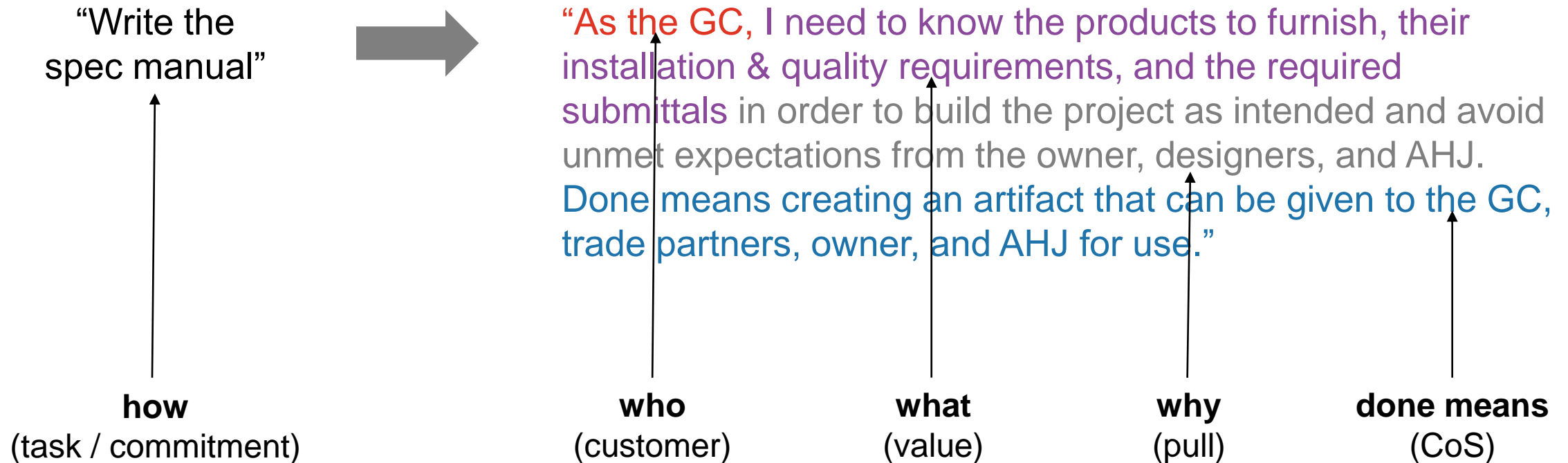
From my team:

- Retrospectives/Sprint Planning too long, not getting faster.
- PM still feels disconnected from the cross-office team.
- Sprint plan is inflexible to unplanned work. “We may not have met our point total but that does not mean we have been sitting around doing nothing.” [a feature or a bug?]

My learning-by-doing means I do some things wrong *then* learn.

- Overlooked key roles of Product Owner and Scrum Master
- We wrote tasks instead of user stories

User stories, not tasks



Reflection: +’s

- As PIC, this gives me a perfect degree of project involvement

From my team:

- **Very efficient for work planning**; questions, thoughts & concerns voiced earlier
- Better team **alignment** and reduced overlapping roles
- Daily standups **improve communication**, bridge across offices, allow more **self-organization**
- Better communication led to **opportunities** for team members to try new tasks
- Planning Poker gives **deeper understanding of tasks**; a great way to engage team.
- Creates responsibility and **accountability**.



← **Stuff we tried**

← **Next steps: better & wider**

Product Owner & Scrum Master training

Proper use of PO & SM roles + user stories to drive real team autonomy & innovation

Integrate consultants? (not easy)

Go wider: all my projects & beyond