

1

## Mike Cohn

- Founding member of Agile Alliance & Scrum Alliance
- Founder of Mountain Goat Software
- Doing Scrum since 1995
- Started my career as a programmer
- VP Engineering in 4 companies

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2

# Agenda

- Iterative and incremental
- User stories
- Estimating
- Planning



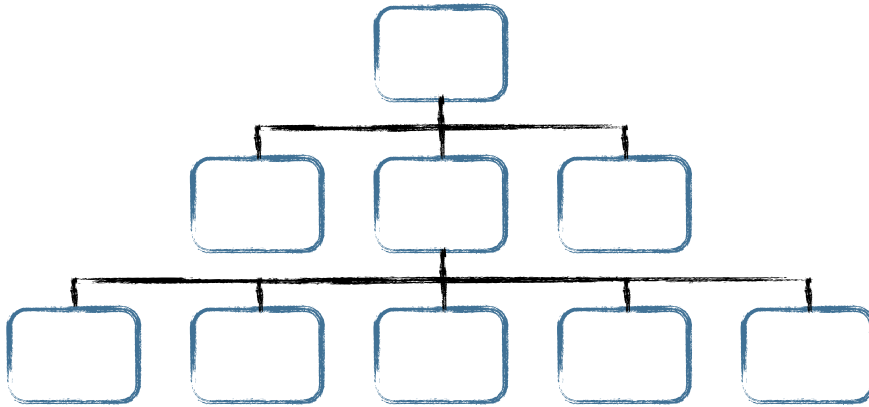
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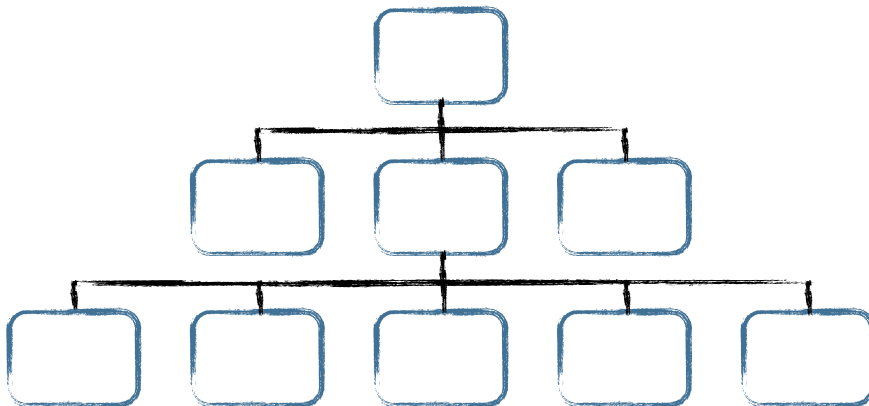
# Iterative

- Revisit previously worked-on pieces



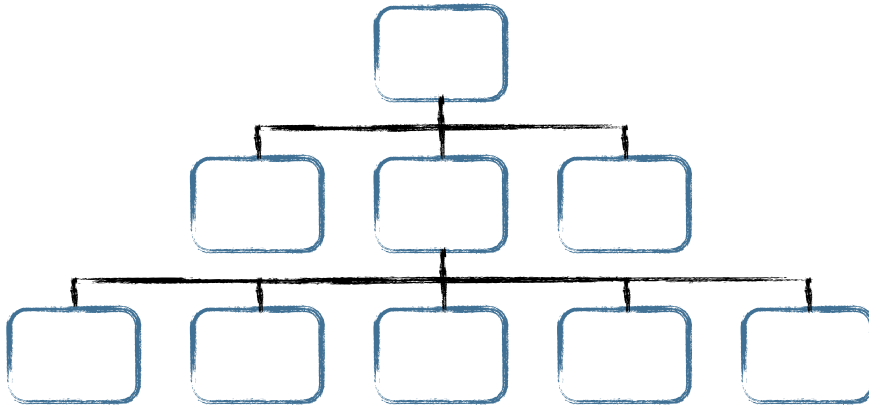
# Incremental

- Develop one piece at a time



## Iterative & incremental

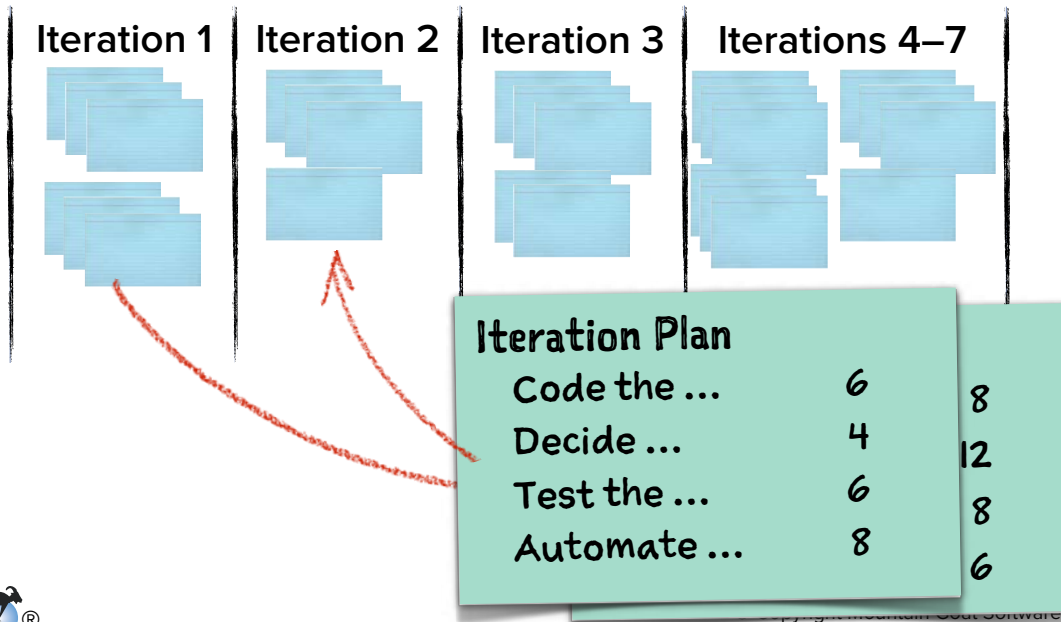
- Do some of one part then some of the next



## Six levels of planning



# A release plan



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As a user, I want to reserve a hotel room.

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

As a user, I can cancel a reservation.

As a frequent flyer, I want to rebook a past trip so that I save time booking trips I take often.



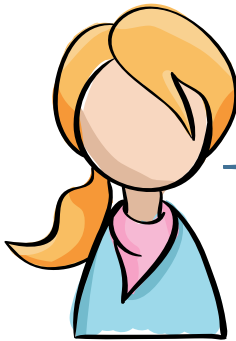
## A template

As a <user type>,  
I <want/need/can/etc.>  
some goal,  
[so that <reason>].



## Where are the details?

As a user, I can cancel a reservation.



- Does the user get a full or partial refund?
- Is the refund to her credit card or is it site credit?
- How far ahead must the reservation be cancelled?
  - Is that the same for all hotels?
- For all site visitors? Can frequent travelers cancel later?
- Is a confirmation provided to the user? How?

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13

## Add details as sub-stories

As a user, I can cancel a reservation.

As a premium site member, I can cancel up to the last minute.

As a non-premium member, I need to cancel at least 24 hours in advance.

As a member, I am emailed a confirmation when I cancel.

14

## ... or as Conditions of Satisfaction

- Conditions of Satisfaction are essentially tests
- Should come from the product owner

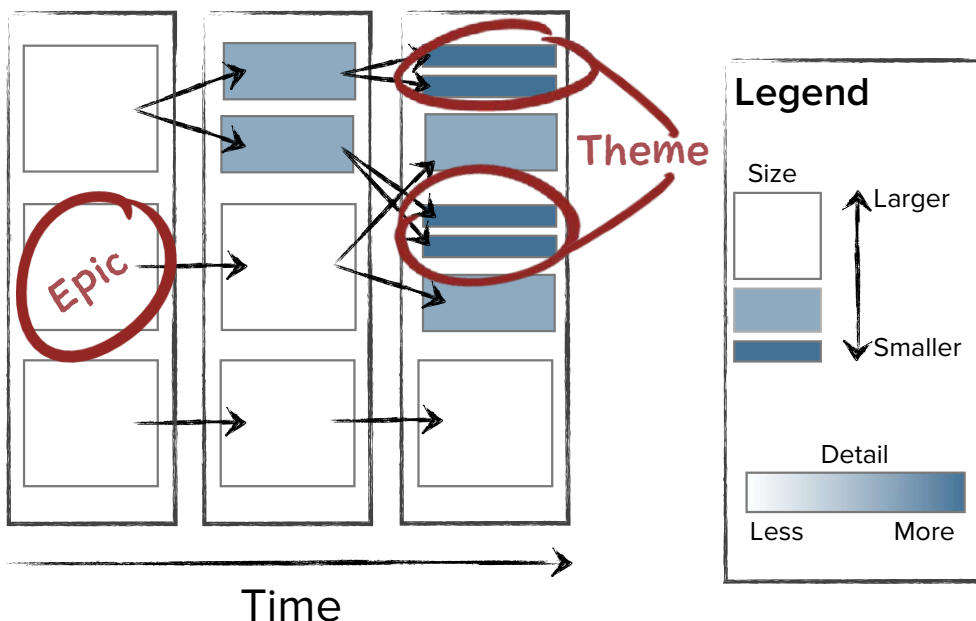
As a user, I can cancel a reservation.

- Verify that a premium member can cancel the same day without a fee.
- Verify that a non-premium member is charged 10% for a same-day cancellation.
- Verify that an email confirmation is sent.



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15



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16





As a VP Marketing, I can review the performance of historical ad campaigns so that I can identify and repeat profitable ones.

An epic

As a VP Marketing, I can select the timeframe to use when reviewing the performance of past campaigns so that ...

Epics?

As a VP Marketing, I can select which type of campaigns (direct mail, TV, email, radio, etc.) to include when reviewing ...



As a VP Marketing, I want to see information on **direct mailings** when reviewing historical campaigns.

As a VP Marketing, I want to see information on **TV ads** when reviewing historical campaigns.

As a VP Marketing, I want to see information on **email ads** when reviewing historical campaigns.



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## How long to...

- Drive to Seattle
- Read a...ahem... good book



21

## Estimate size; derive

Size → Calculation → Duration

300 kilograms	Velocity= 20	300 ÷ 20 = 15 iterations
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22

# Two Units For ESTIMATING

1

**Ideal  
Time**

2

**Story  
Points**



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## Ideal time

- How long a thing will take if:
  - it's all you work on
  - no one interrupts you



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24



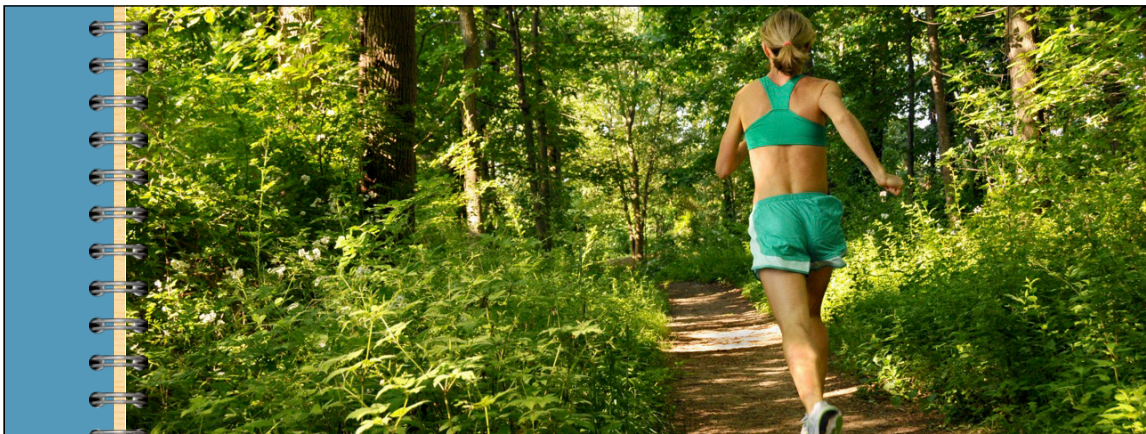
## Story points

- How long a user story will take to develop (effort)
- Influenced by
  - Complexity
  - Risk
  - Uncertainty
  - Etc.





27

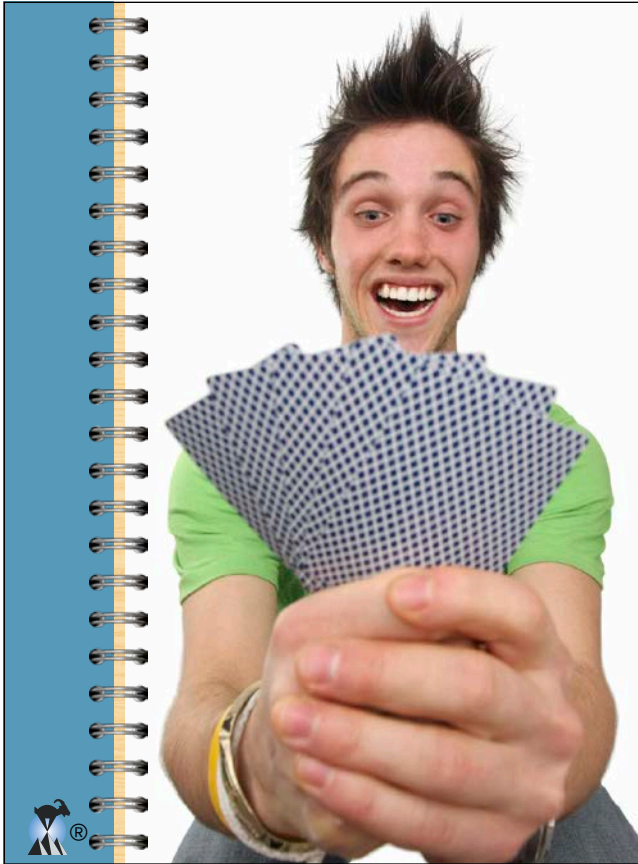


Your time cannot be added to mine

- You can run the trail in 5 minutes
- I can run it in 10 minutes
- We can't agree on how long it will take to run
- But we can agree the trail is 1 km



28

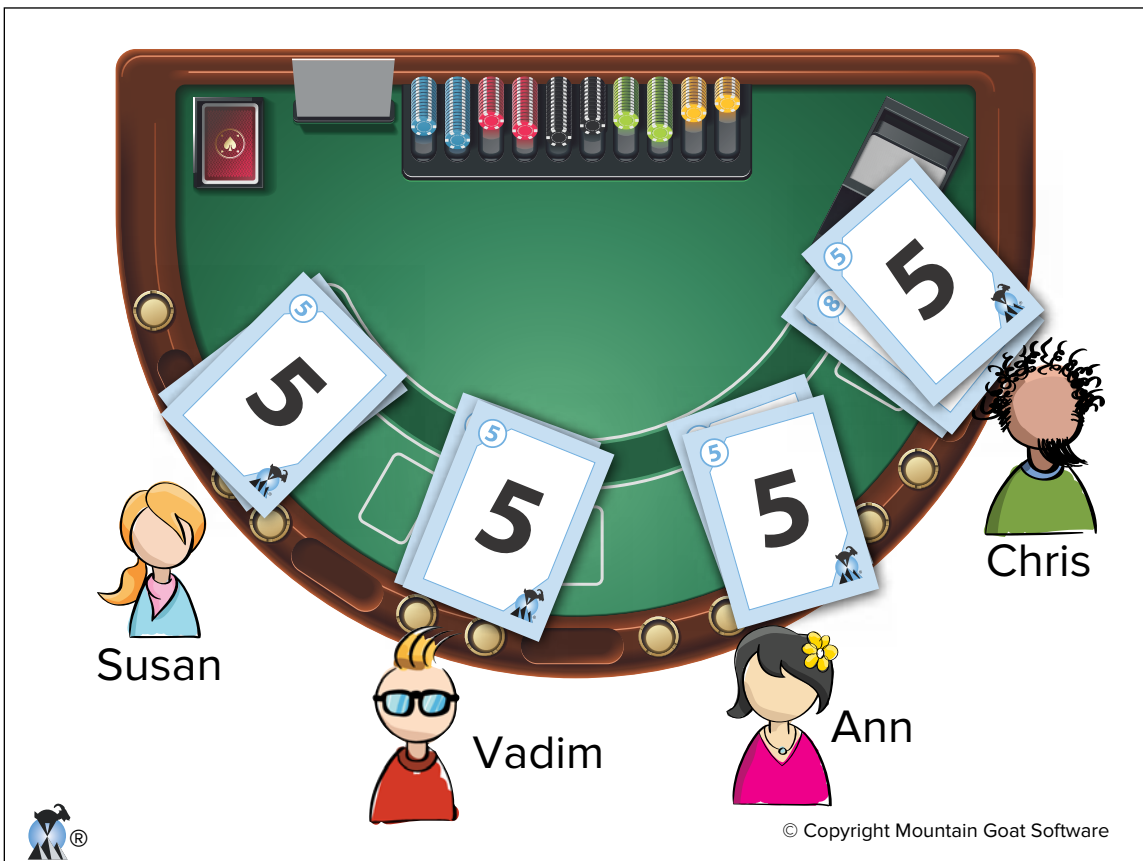


## Planning Poker®

- Each estimator has cards with valid estimates
- A product backlog item is discussed
- Each estimator selects an estimate
- Cards are turned over
- Discuss differences (especially outliers)
- Repeat until consensus

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29



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30

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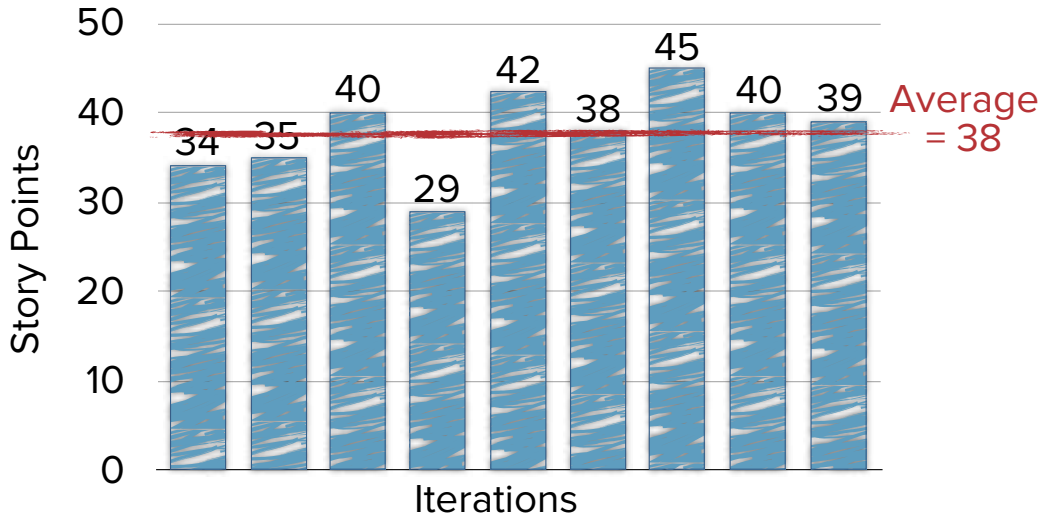
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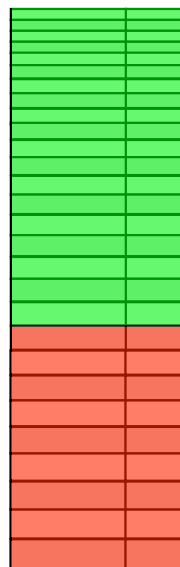


# Velocity



How much can be delivered in 5 iterations?

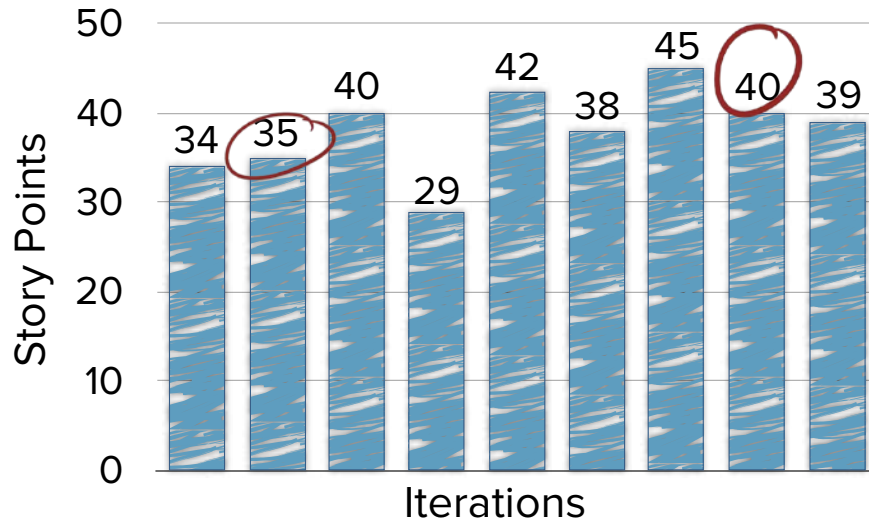
$$5 \times 38 \rightarrow$$



Product Backlog



## Using a confidence interval



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## Calculating a confidence interval

# of historical iterations	Iterations to throw out from each end
0-7	0
8-10	1
11-12	2
13-15	3
16-17	4
18-20	5
21-22	6
23-25	7
26+	8



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36

**Use the online velocity range calculator at [mountaingoatsoftware.com/tools](http://mountaingoatsoftware.com/tools)**

A better answer:

- How much can be delivered in 5 iterations?
- Fixed-date planning

$5 \times 34 \rightarrow$

Will have

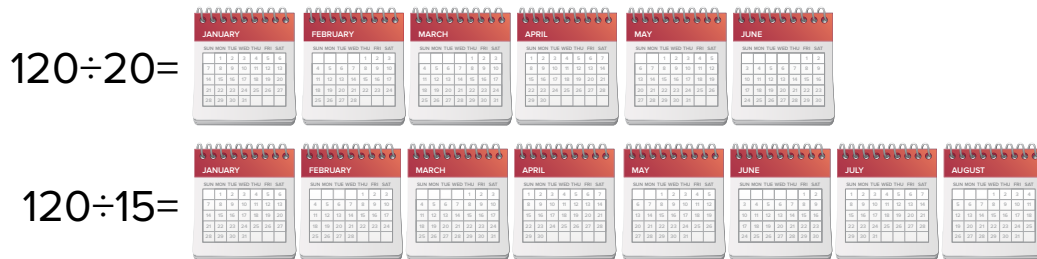
Might have

Won't have

Product Backlog

# Fixed-scope projects

- Sum the product backlog
- Estimate velocity as a range
- Divide the size of the product backlog by the velocity range



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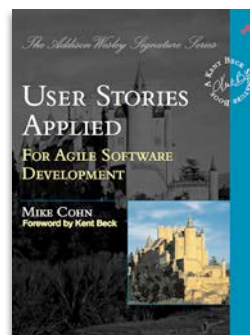
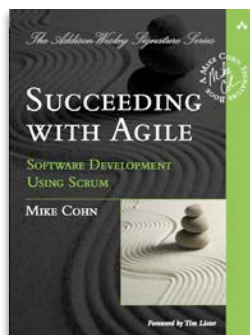
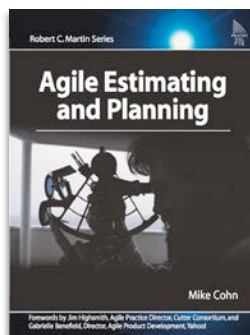
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- Tracking progress



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**Bonus Section**



# Three Ways to Track Progress

1

Release Burndown

2

Sprint Burndown

3

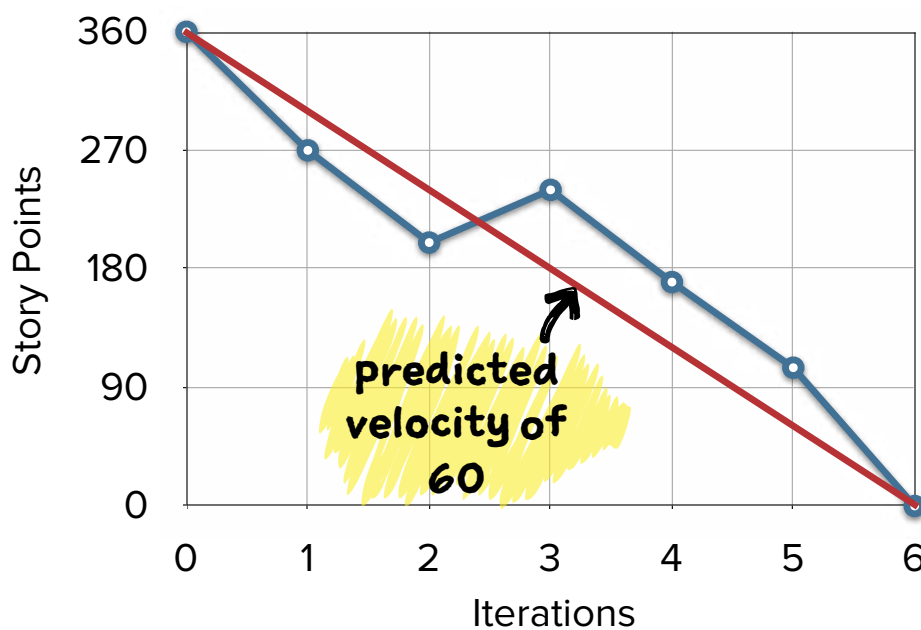
Task Boards



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43

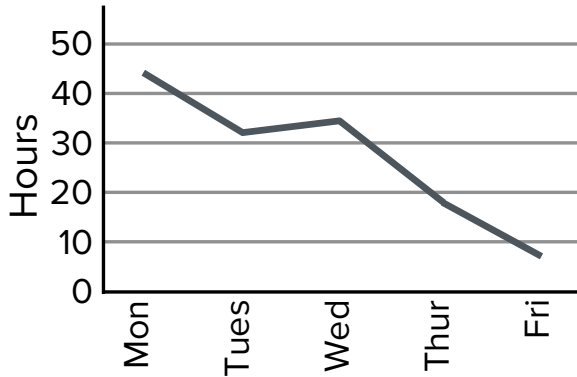
## A release burndown chart



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44

Tasks	Mon	Tues	Wed	Thur	Fri
Code the UI	8	4	8		
Code the middle tier	16	12	10	7	
Test the middle tier	8	16	16	11	8
Write online help	12				



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45

## Task boards

Story	To Do	In Process	Done
As a user, I... 8 pts	Code the... Design a... Test the... Figure out how... 8 hrs	Figure out how... SC 8 hrs	
As a novice user, I... 8 pts	Code the... Design a... Test the... 4 hrs		

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46

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