When Will it Be Done?

Predicting the Future With Agile Estimating and Planning

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President & COO
Ascendle

35 years
Software development experience

200+
Software and quality assurance engineers

5
Development centers
(US and Eastern Europe)

3,500 hours
Typical project effort

9 months
Typical project duration

$500,000
Typical project value

480%
3 year revenue growth

114%
Revenue growth 2016

+20%
Net income 2016

When will it be done?

Agile

Flexibility

Respond to Change

Release When Ready

Stakeholders

Predictability

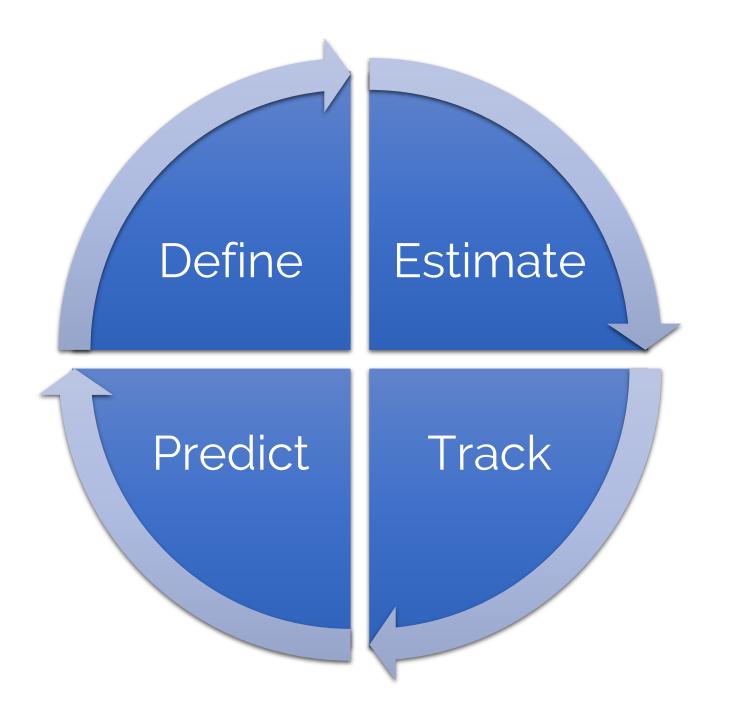Ability to Plan Ahead

Release on a Schedule

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"What will it mean if...?"

We add a feature?

We make a feature bigger or smaller?

We use a different team size?
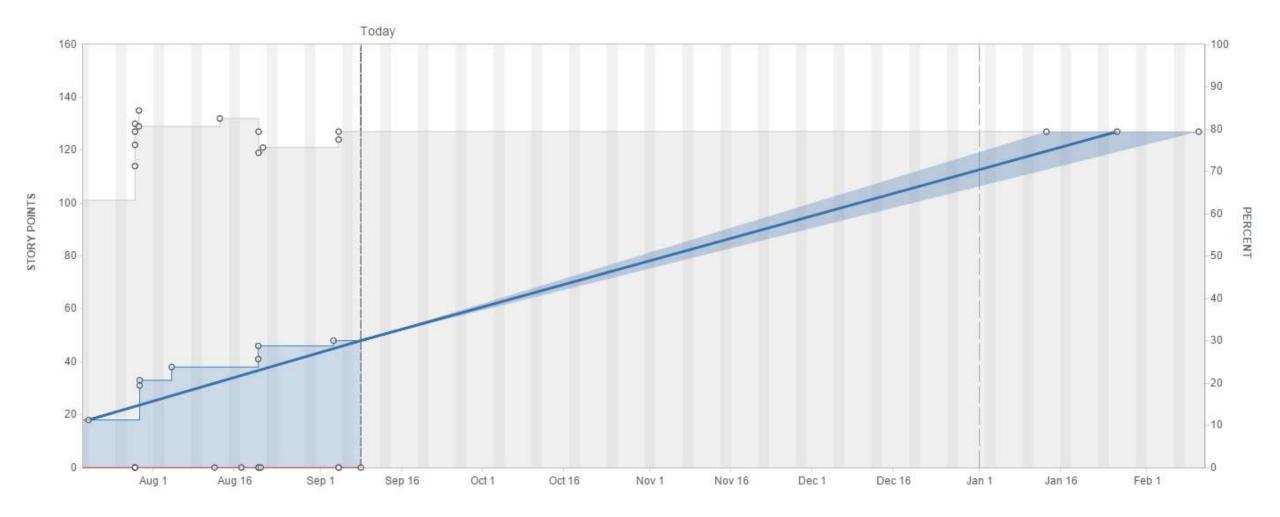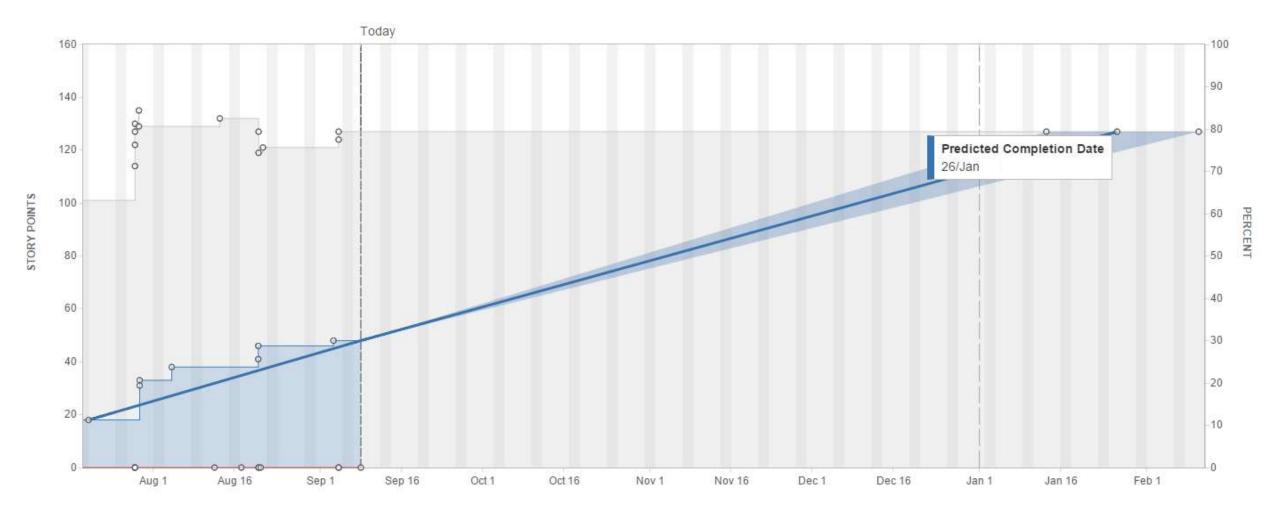
We use a different technology?

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Result

Result

Result

Result

Result

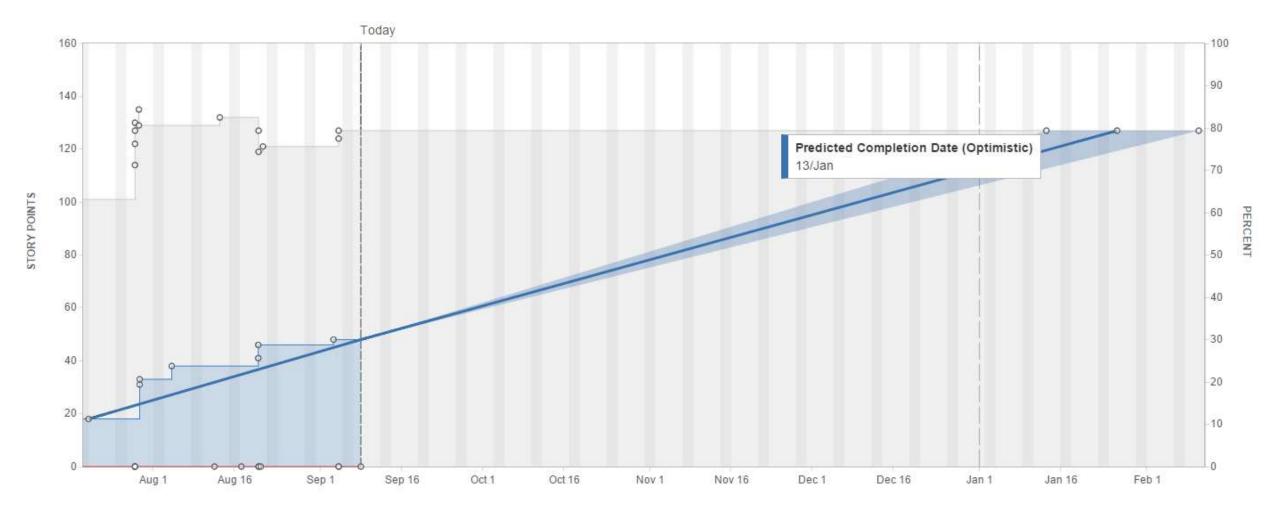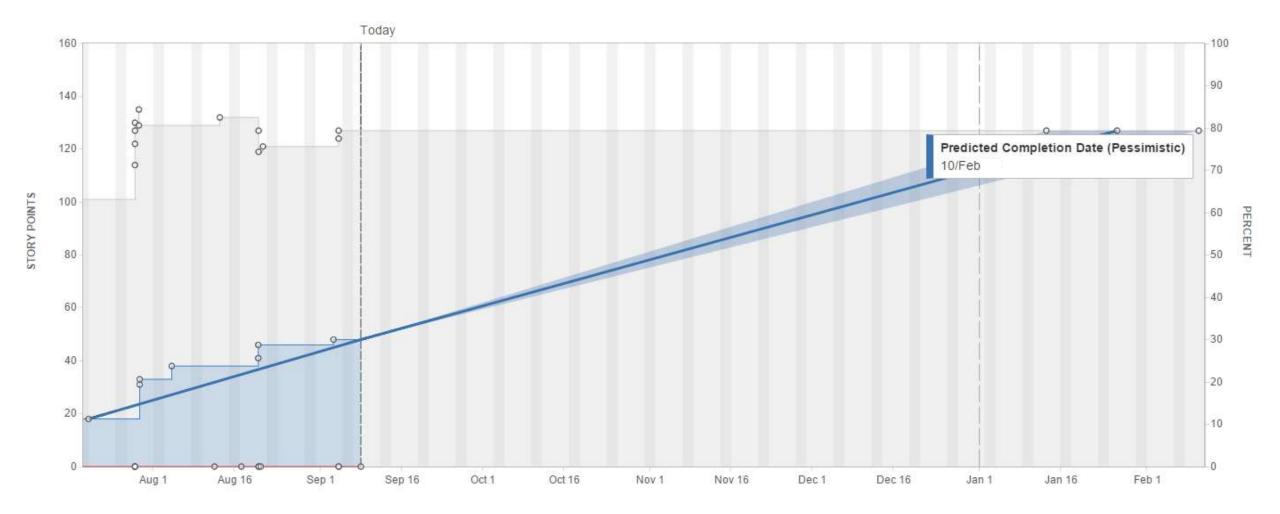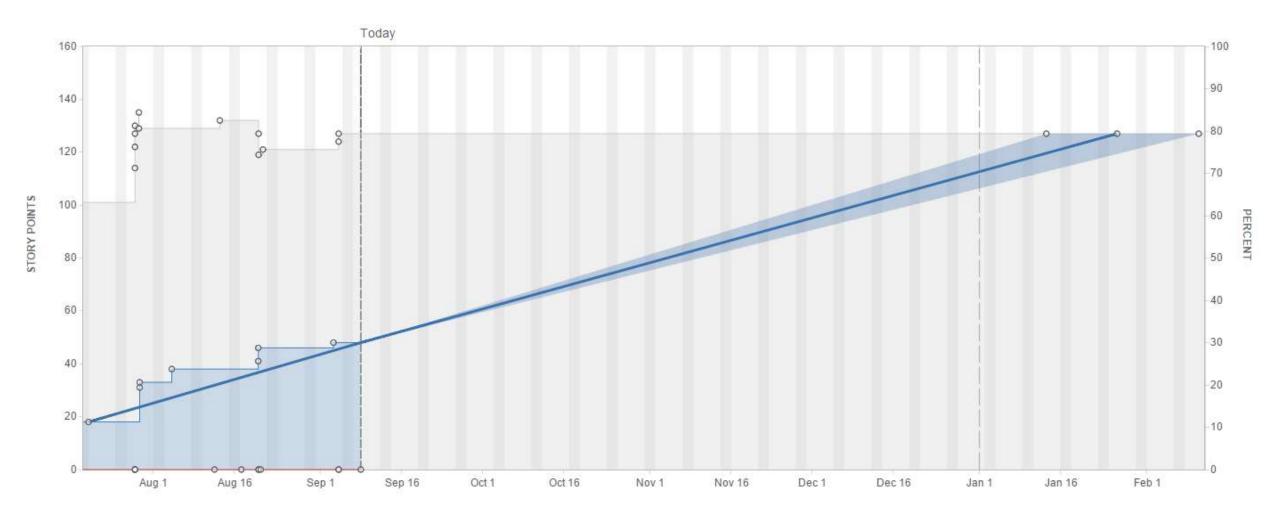Step 1
Write User Stories

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User Stories

Compact "requirements"

Quick and easy to write

Shared vision

Prioritized by business value

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The Sentence

Who

What

As a Shopper I want a gift registry so I can share what I want with friends and family

Why

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Acceptance Criteria

- I can create one or more gift registries
- I can add a product to a registry
- I can specify a quantity desired
- I can view my registry
- I can share my registry with friends and family
- I can remove products from my registry
- I can rename my registry

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The Product Backlog

As a shopper I want to view a list of products so I can select some to purchase

As a shopper I want to review my cart so I can make adjustments prior to checkout

As a shopper I want to check out so I can get my products shipped to me

As a shopper I want a gift registry so I can share what I want with friends and family

As a shopper I want to review my orders so I can see what I've purchased in the past

As an administrator I want to modify the list of products so I can adjust our offerings over time

As a fulfillment specialist I want to print a picking report so I can prepare products to ship

As a fulfillment specialist I want to print packing labels so I can ship packages

As a finance employee I want to view analytics about orders and revenue so I can see how we're tracking against our goals

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Step 2
Estimate User Stories

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Absolute vs Relative Size

Absolute

Relative

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Story Points

0.5   1   2   3   5   8   13

20   40   100

"Cohn Scale"

Example

1   2   3   5

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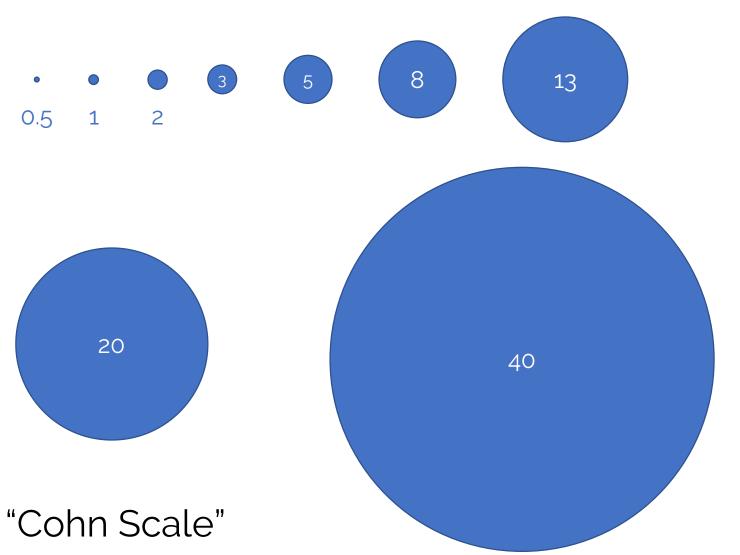
Estimating Goals

Leverage team experience

Encourage discussion

Involve everyone

Make it democratic

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Planning Poker

Discuss   Vote

Discuss   Re-vote

Estimated Product Backlog

13 As a shopper I want to view a list of products so I can select some to purchase

5 As a shopper I want to review my cart so I can make adjustments prior to checkout

13 As a shopper I want to check out so I can get my products shipped to me

20 As a shopper I want a gift registry so I can share what I want with friends and family

3 As a shopper I want to review my orders so I can see what I've purchased in the past

5 As an administrator I want to modify the list of products so I can adjust our offerings over time

3 As a fulfillment specialist I want to print a picking report so I can prepare products to ship

20 As a fulfillment specialist I want to print packing labels so I can ship packages

8 As a finance employee I want to view analytics about orders and revenue so I can see how we're tracking against our goals

Total: 90 Story Points
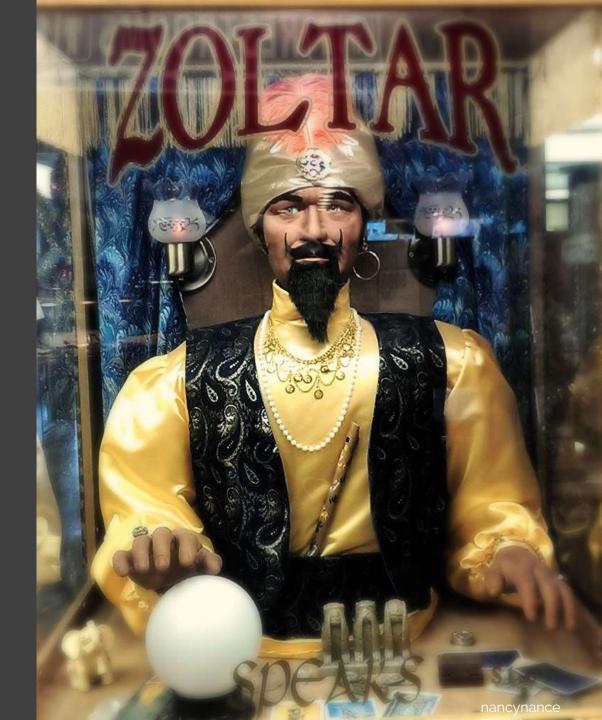
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Step 3
Estimate Velocity

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Velocity

How quickly the team can move

Story points per sprint

Shippable user stories

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"But we haven't started the project yet!"

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Three Options

Run a couple of sprints

Compare to a prior project

Break down some stories

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How Big is the Box?

Team Capacity
- Total hours per sprint
- Dedicated to this project

Subtract Meeting Time
- Sprint planning
- Daily standups
- Etc.

Net Capacity
Hours per sprint the team can spend on tasks

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What Fits in the Box?

As a shopper I want to review my cart so I can make adjustments prior to checkout

- Write and review acceptance tests – 2 hours

- Create user interface views – 4 hours

- Write unit tests and code – 4 hours

- Run acceptance tests – 1 hour

- Fix bugs & make adjustments – 30 minutes

- Peer code review & make updates – 30 minutes

- **Total:** 12 hours

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What Fits in the Box?

As a shopper I want to review my cart so I can make adjustments prior to checkout

5

As a shopper I want to view a list of products so I can select some to purchase

13

As a shopper I want to review my orders so I can see what I've purchased in the past

3

Estimated Velocity: 21

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Step 4
Create a Forecast

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Calculating a Timeframe

$$\text{Duration} = \frac{\text{Story Points}}{\text{Velocity}} \times \text{Sprint Length}$$

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Calculating a Timeframe

Duration $= \dfrac{90}{21} \quad \textbf{X} \quad$ 2 Weeks $\quad = < 9$ Weeks

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We're done!

jurvetson (Flickr)

Same velocity?

No **changes**?

No **surprises**?

No chance

Cone of Uncertainty

0 to 1 Sprints: 1.6x to 0.6x

2 Sprints: 1.25x to 0.8x

3 Sprints: 1.15x to 0.85x

4 or More Sprints: 1.1x to 0.9x

Project Schedule

1.6x
1.25x
1.15x
1.1x
x
0.9x
0.85x
0.8x
0.6x

Initial Product Definition
Approved Product Definition
Requirements Specification
Product Design Specification
Detailed Design Specification
Accepted Software

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Calculating a Timeframe *Range*

Low Duration $= \dfrac{90}{21 \times 1.6} \times$ 2 Weeks $= \sim$5 Weeks

High Duration $= \dfrac{90}{21 \times 0.6} \times$ 2 Weeks $= \sim$14 Weeks

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Agile Estimating and Planning

Mike Cohn

Live Training for Your Team

http://www.ascendle.com/pmi-nyc-offer

- Short tip every week or two in your inbox
- Not available anywhere else
- Early access to new book

http://bit.ly/davescrumtips

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THANK YOU!

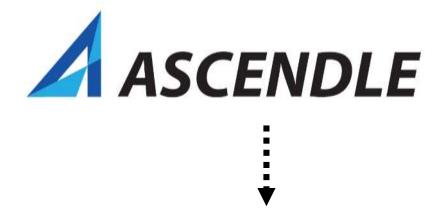**http://bit.ly/davescrumtips**

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