

Agile and Scrum for New Teams

August, 2016

Agenda

Agile Foundations

Iterative Development

Scrum

 Features/Benefits

Scrum Process

 Framework

Product Backlog

User Stories

Product Owner Role

The Team

Scrum Master

The Sprint

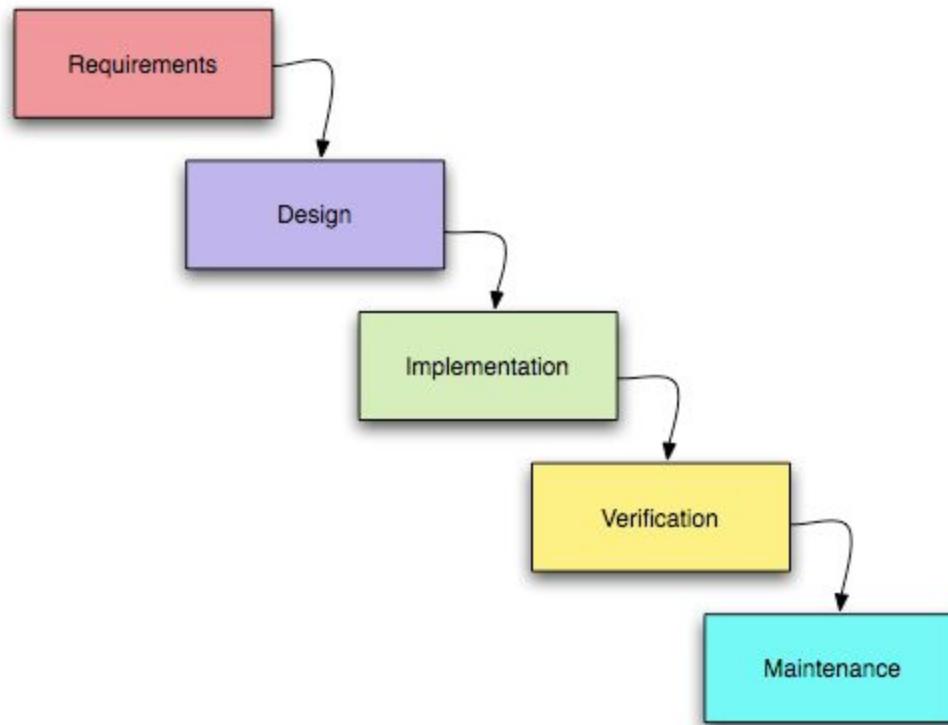
Inspect and Adapt

Release Planning

Why did we need Agile?

- In the 80s, software development left much to be desired
 - slow and unpredictable
 - bad quality
 - wrong features
 - bad UX
- The biggest thing we developed in the 80s was Y2K – hehe

“Waterfall” Methodology



Insanity!

If you want
different results,
you have to
change what
you are doing.



Potential Benefits

- Higher productivity
- Higher quality
- Increased Flexibility and Customer Focus
- Reduced time to market
- Lower risk
- More fun, more satisfying, better morale

The Agile Manifesto*

www.agilemanifesto.org

We have come to value:

Individuals and interactions over processes and tools

Working software over comprehensive documentation

Customer collaboration over contract negotiation

Responding to change over following a plan

That is, while there is value in the items on the right,
we value the items on the **left** more.”

(2001, Kent Beck, Mike Beedle, Arie van Bennekum, Alistair Cockburn, Ward Cunningham,
Martin Fowler, James Grenning, Jim Highsmith, Andrew Hunt, Ron Jeffries, Jon Kern,
Brian Marick, Robert C. Martin, Steve Mellor, Ken Schwaber, Jeff Sutherland, Dave Thomas)

Agile Principles – Delivering

- Satisfy the customer through early and continuous delivery
- Deliver frequently, preferring a shorter timescale
- Working software is the primary measure of progress



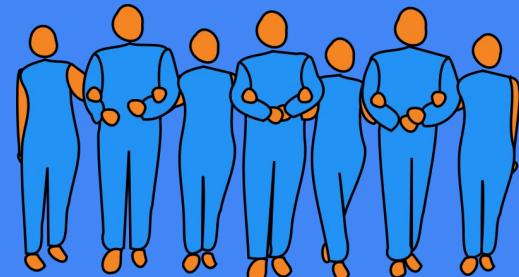
Agile Principles – Working

- Technical excellence and good design enhances agility
- Simplicity, maximizing the amount of work not done
- Welcome changing requirements
- Sustainable pace



Agile Principles – the Team

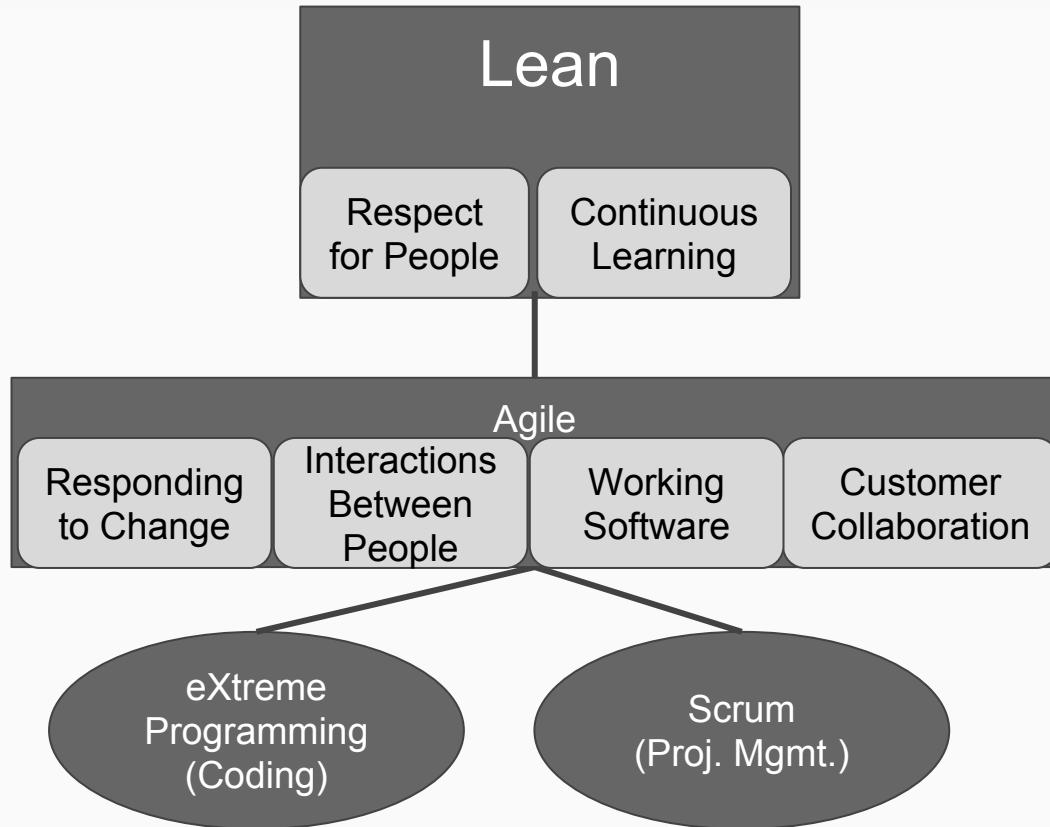
- **Business & technical people work together daily**
- **Build teams with motivated individuals & trust them**
- **Best results emerge from self-organizing teams**
- **The team regularly reflects to become more effective**
- **Face-to-Face communication**



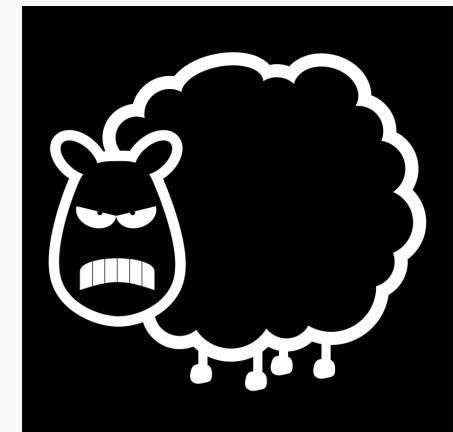
So what is Agile, then?

- Agile is a culture, a way of thinking, and a way of working.
- Agile people do things in an agile way.
- Agile is an overall approach to delivering value and pleasing customers.

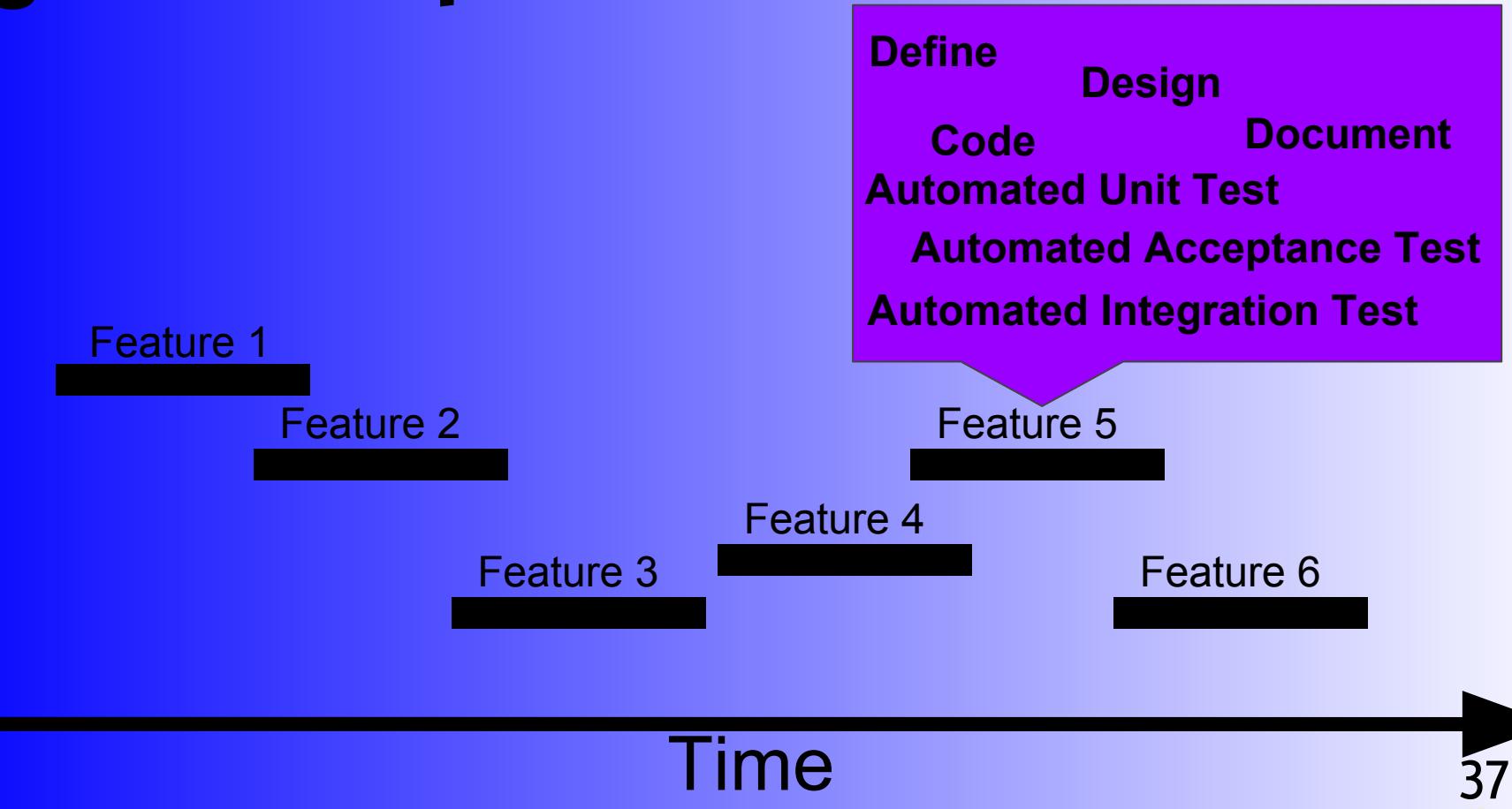
The Family Tree



Waterfall



Agile Development Model



Delivering Frequently

Why bother delivering frequently?

- User feedback
 - Discover value (solutions)
- Risk management
 - Avoid a large pile of unplanned, unknown work at the end by completing things in small bites
- Agility
 - Easy to quickly change direction

How to build a car for a customer

The Waterfall Approach

- Build wheels
- Add axles
- Build a body
- Add steering and engine
- Deliver to customer



1



2



3



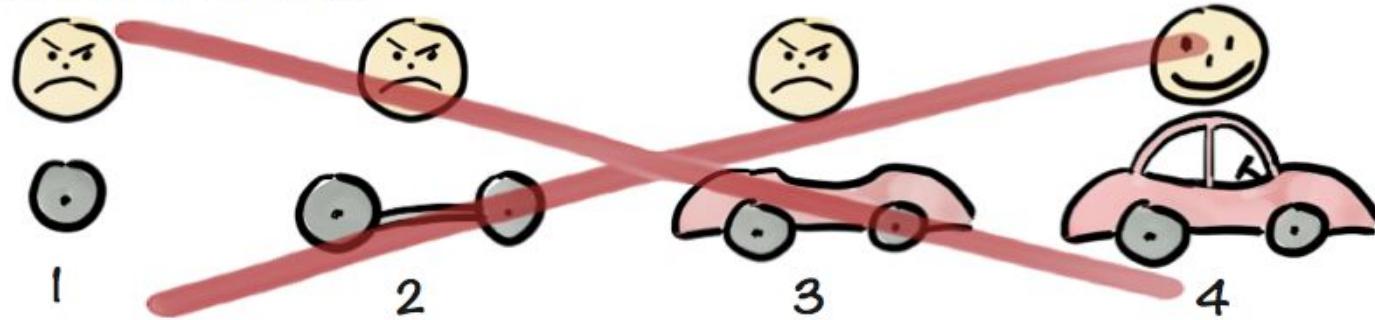
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The Agile Approach

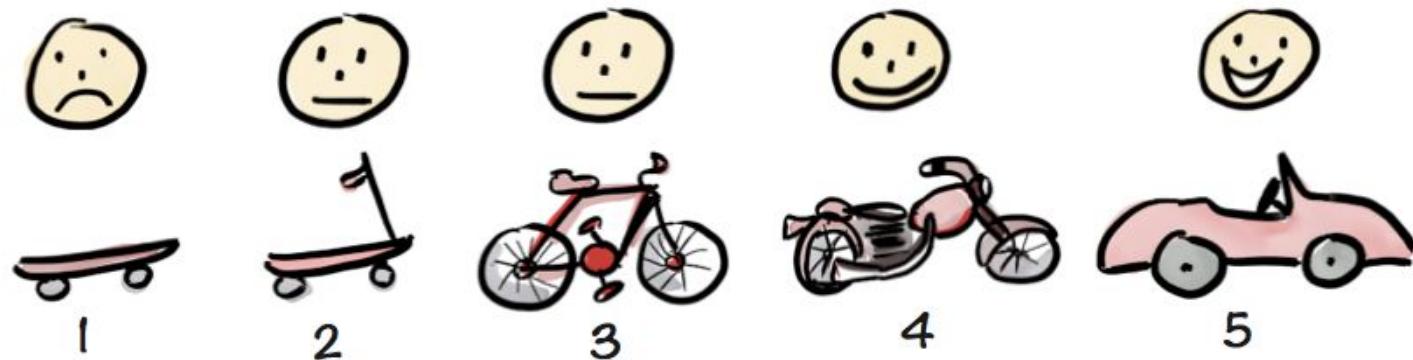
- Q: Well, what kind of car do you want?
- A: Not sure.
 - How about I put a couple of wheels in place? Let's start there.



Not like this....



Like this!

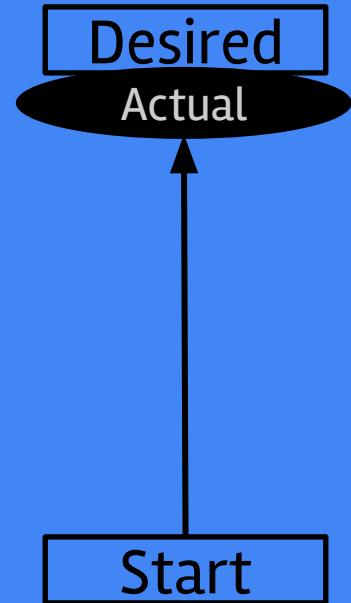


The Iterative Thought Process

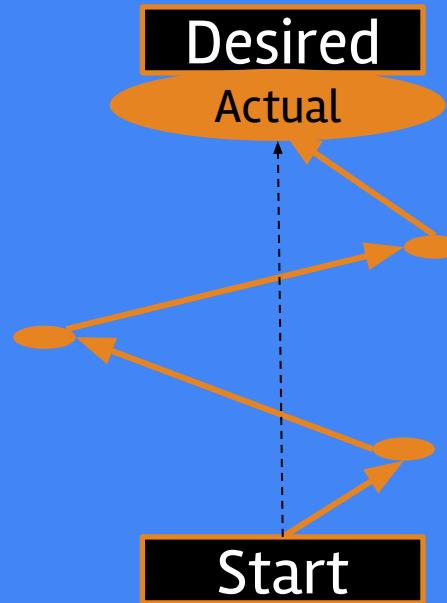
- Focus on the underlying need
- Fulfill that need in the simplest way possible
- Produce a Usable Product ASAP
- LEARN
- Lather, rinse, repeat

Achieving a Vision

Plan-Driven



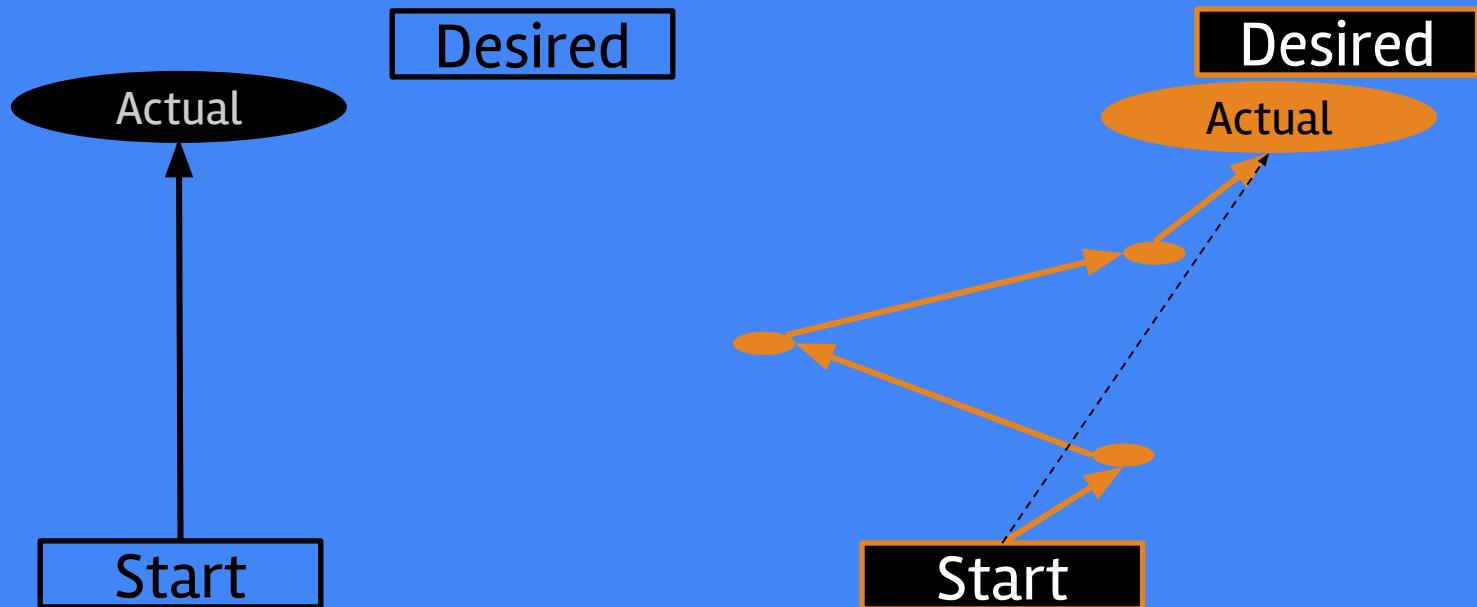
Iterative



Achieving a Vision

Plan-Driven

Iterative



Scrum



What is scrum?

- An Agile product–development methodology
 - Implements the Agile Manifesto and Agile Principles
- A software development process framework
- When you hear people say “we’re Agile” they usually mean “we’re doing scrum.”

Applicability of Scrum

Works Well

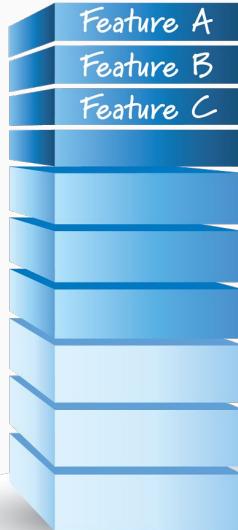
- SW Development
 - Great for complex projects
- Stable Teams
- Empowerment
- Plannable Work

Not so well

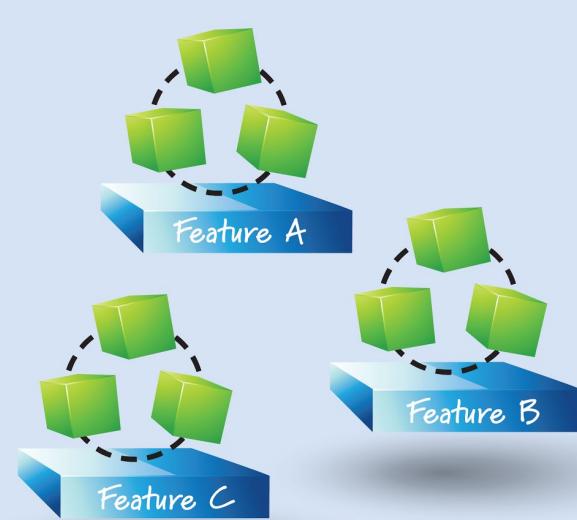
- Short projects
- No teams, small teams
- Constant product change
- Ops and maintenance

Scrum Process Framework

Product backlog



Iteration planning

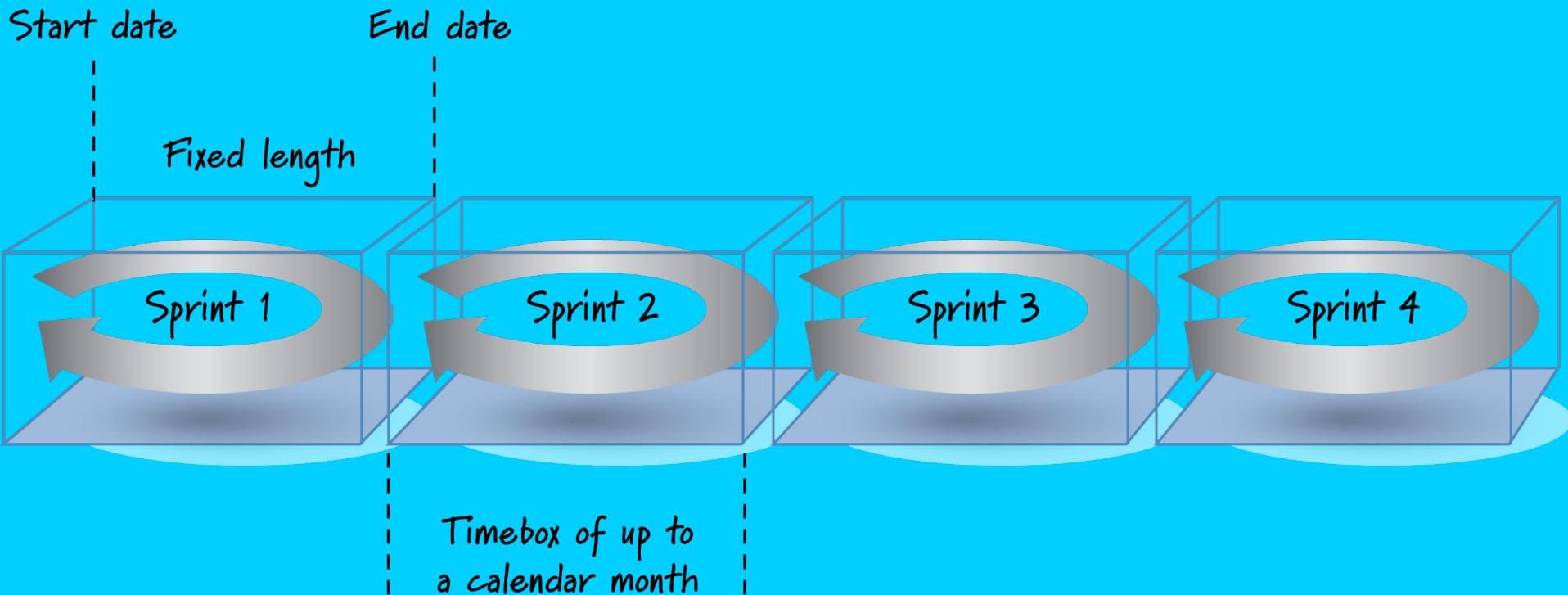


Iteration review

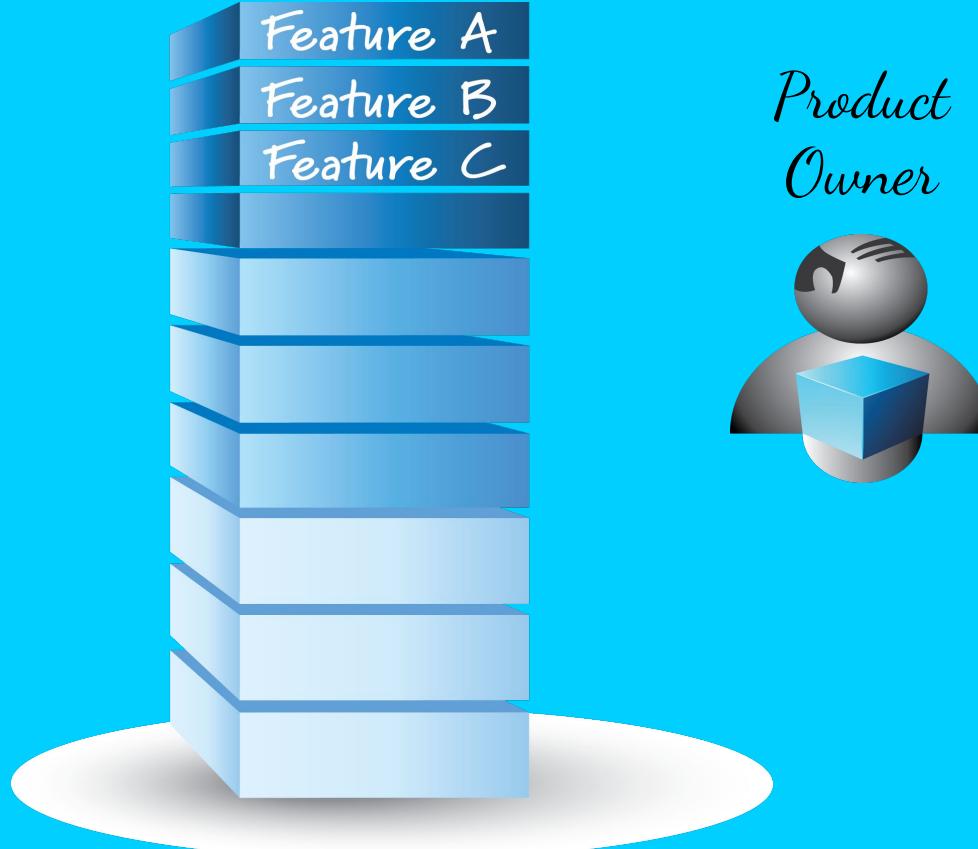
Potentially Shippable Product



Iteration (1 week to 1 calendar month)



Product Backlog



Product Backlog



Ordered list of value to be produced

Primarily used for short- and medium-term planning

List of ***all*** work for the team

Owned and maintained by Product Owner

User Stories



Auto-complete

As a pro Firefox user, I want the browser to match what I'm typing in the location bar with URLs I've recently visited and then supply the rest of the URL so that I don't have to type in the whole thing.

Online submission

As an ER, I want to fill out and submit my 226/226A online so it's easier and there are fewer errors.

Altitude Data Display

As an air traffic controller, I want to see the altitude of each aircraft displayed next to the aircraft icon on my screen.

AC: Altitude should be updated in realtime.

Acceptance Criteria

Cancel Reservation

As a traveler, I want to cancel my whole reservation easily, without having to cancel each piece, so that I can save time and avoid errors.

Acceptance Criteria

- Cancel >24hrs before travel begins
- Charge 10% fee
- Ask “are you sure”
- Display confirmation of what has been canceled
- Process cancellation within 4 hours
- No email confirmation yet

Roles in Scrum

Product Owner

- Empowered Action
 - Drive Product Success
 - Product Vision
 - Own the Product Backlog
 - Maximize ROI
 - Define value
 - Prioritize work
 - Accept work
 - Determine Releases
- Active Role
 - Sprint Planning
 - Backlog Refinement
 - Sprint Review
 - [Retrospective]
 - [Daily Scrum]
 - Release Planning
 - One per product/team

Responsibilities

Activities



THE (Delivery) TEAM

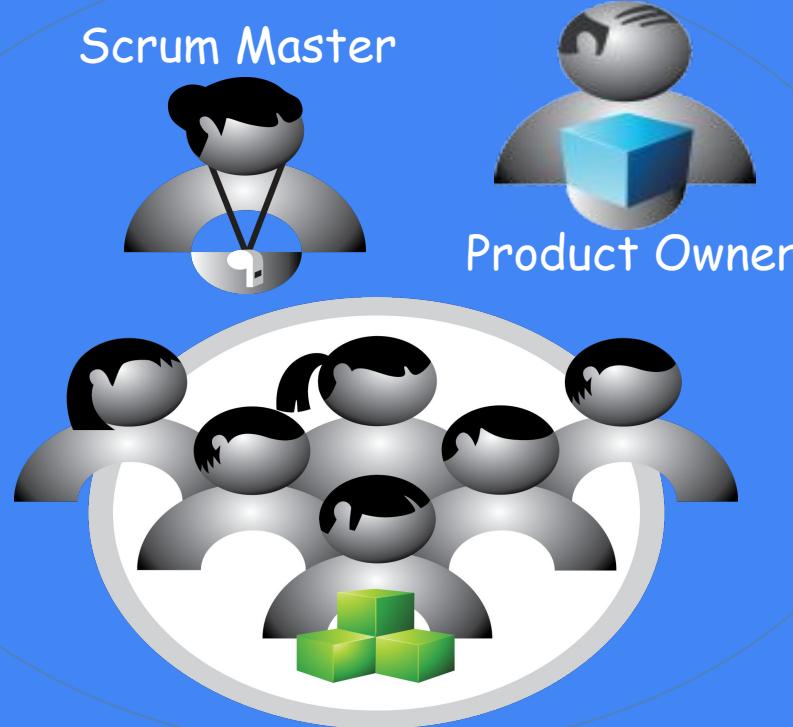
Long-lived and stable

Dedicated

**CROSS- FUNCTIONAL
SELF- ORGANIZING**

Co-Located

5 – 9 People



Self-Organizing Team

- **Accepts work from Customer**
- **Makes and meets its own commitments**
- **Decides how to do the work**
- **Decides who does the work**
- **Decides how to meet its commitments**
- **Takes responsibility for quality**



SCRUM MASTER

**Change Agent
Servant Leader
*Process Champion
*Obstacle Remover**

Sprint Planning

**The purpose of
Sprint planning is to
agree to the items
to be produced in
the sprint.**

User Stories to Tasks



As a Kindle reader, I want to pick up where I left off in my book when I restart the app.
AC: For Kindle Reader only

Technical Design

Functional/Integration Test Plan and Tests

Code to store furthest page read on close

Code to display furthest page read

Code to get furthest page read on open

Code for “furthest page not available”, “book has only one page”, “furthest page read is past the end of the book”

Definition of Done

(Basic Example)

- **Code Complete**
- **Fully Tested**
- **No Known Defects**
- **Checked In**
- **Tested in Official Test Environment**
- **Legal Approval**

No Changes



<http://www.flickr.com/photos/revstan/>

Daily Scrum



A time and place for the team to self-organize each day.



**INSPECT
AND
ADAPT**

Potentially Shippable Product Increment



Sprint Review (aka “The Demo”)

- Everyone's invited
- Working software
- Minimal prep time
- Informal
- Interactive
- Max 1 hour per sprint week





RETROSPECTIVE

COMP

MIRROR

5W

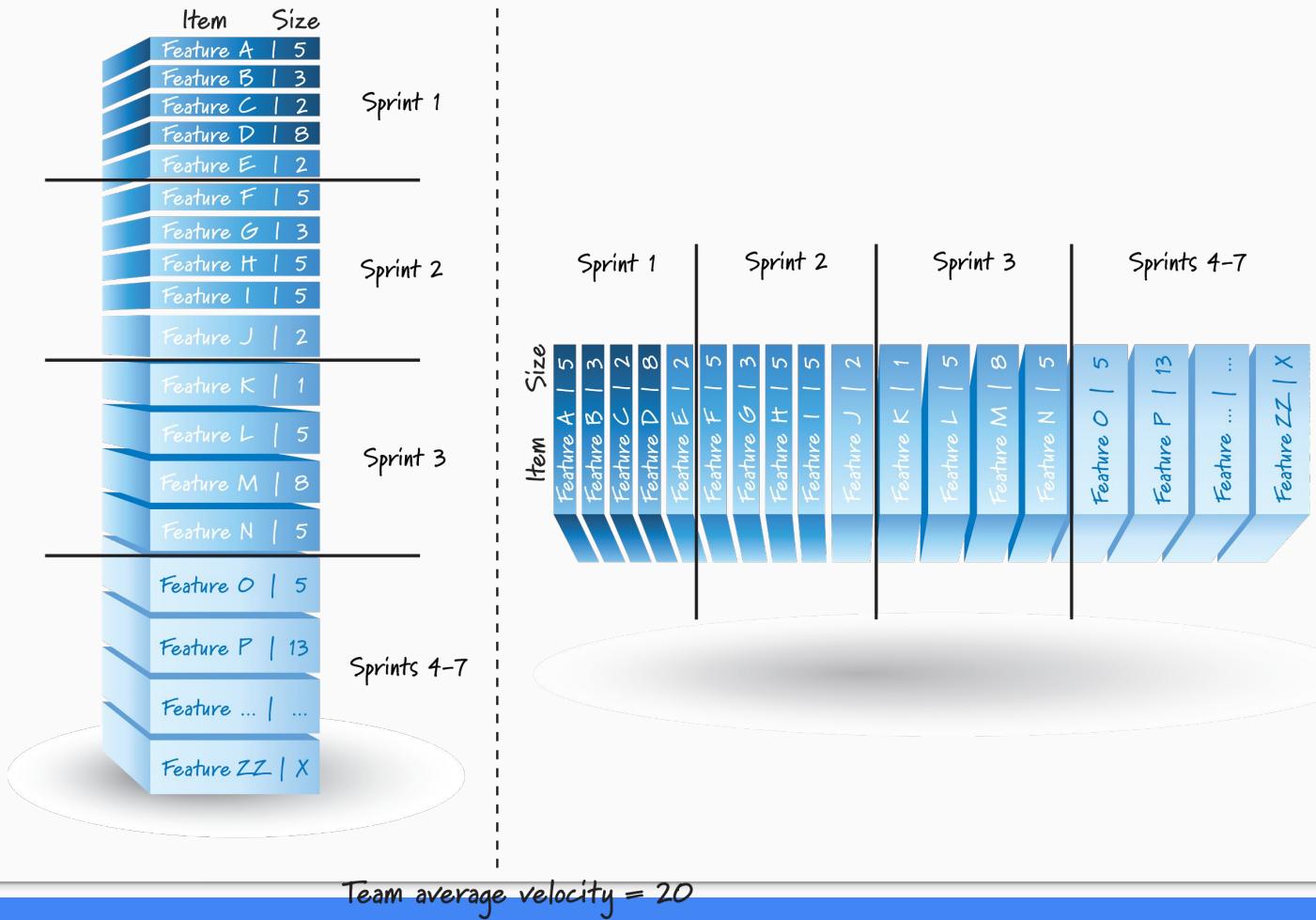
“Everyone on this team has continued to do their best work and to contribute to the team at the highest possible level. The purpose of this meeting is not to place blame, but to learn and improve.”

Release Planning

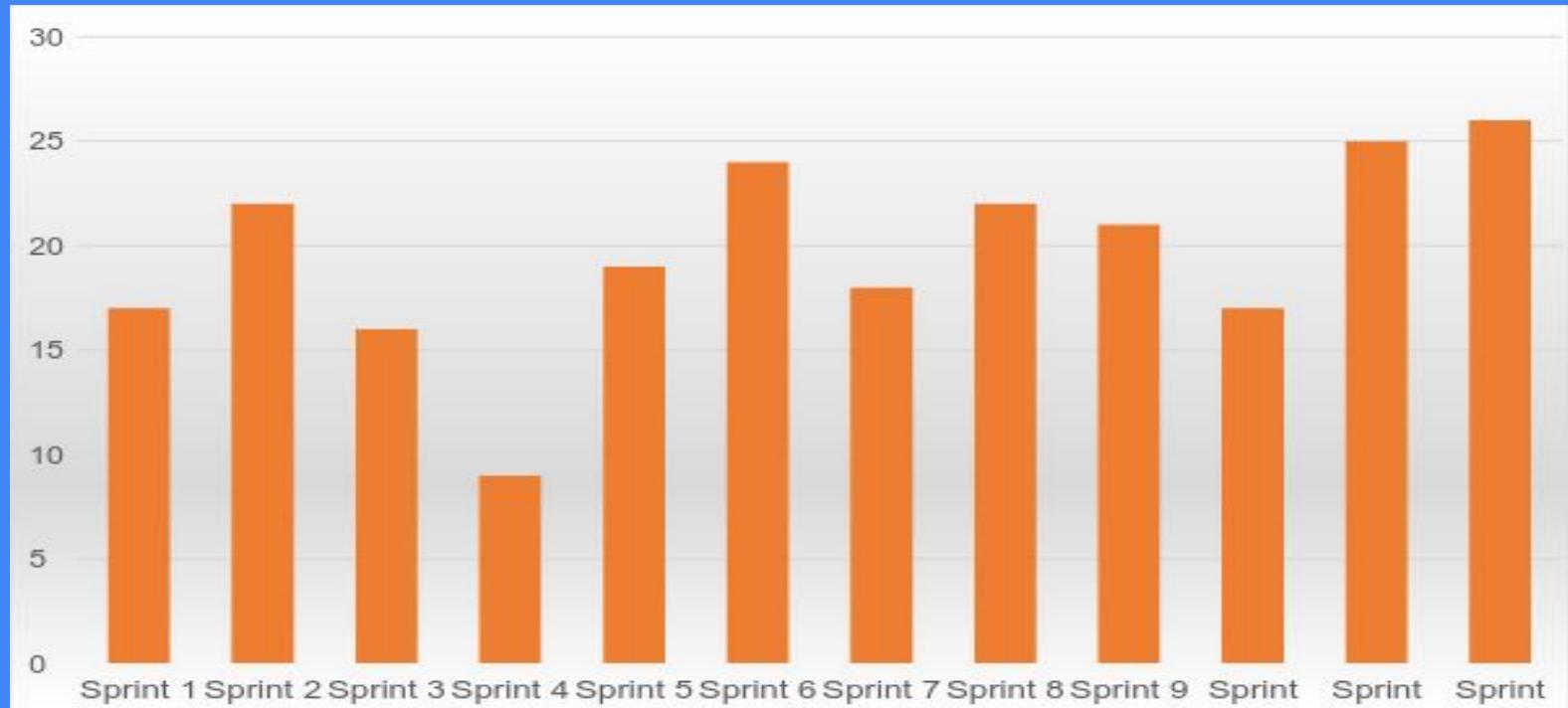


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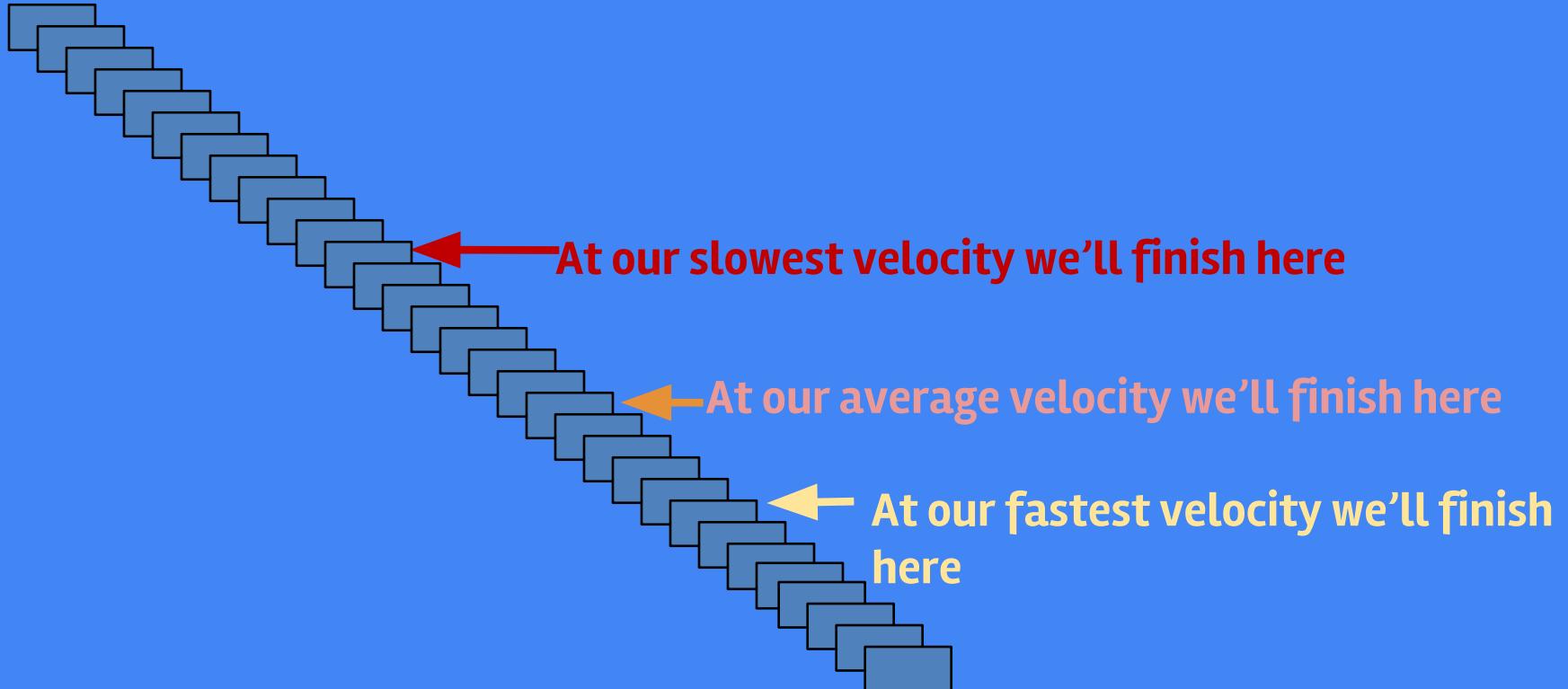
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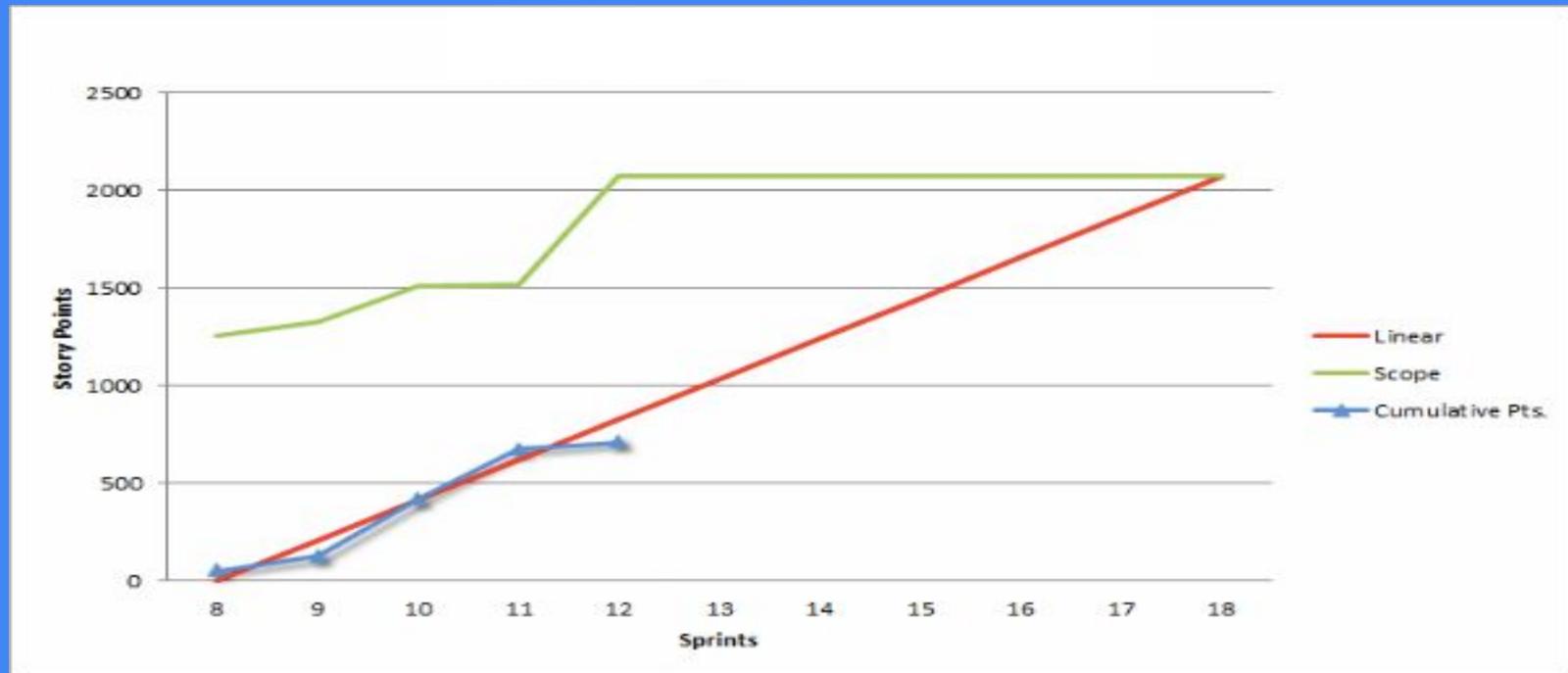
Velocity History



Fixed-date planning



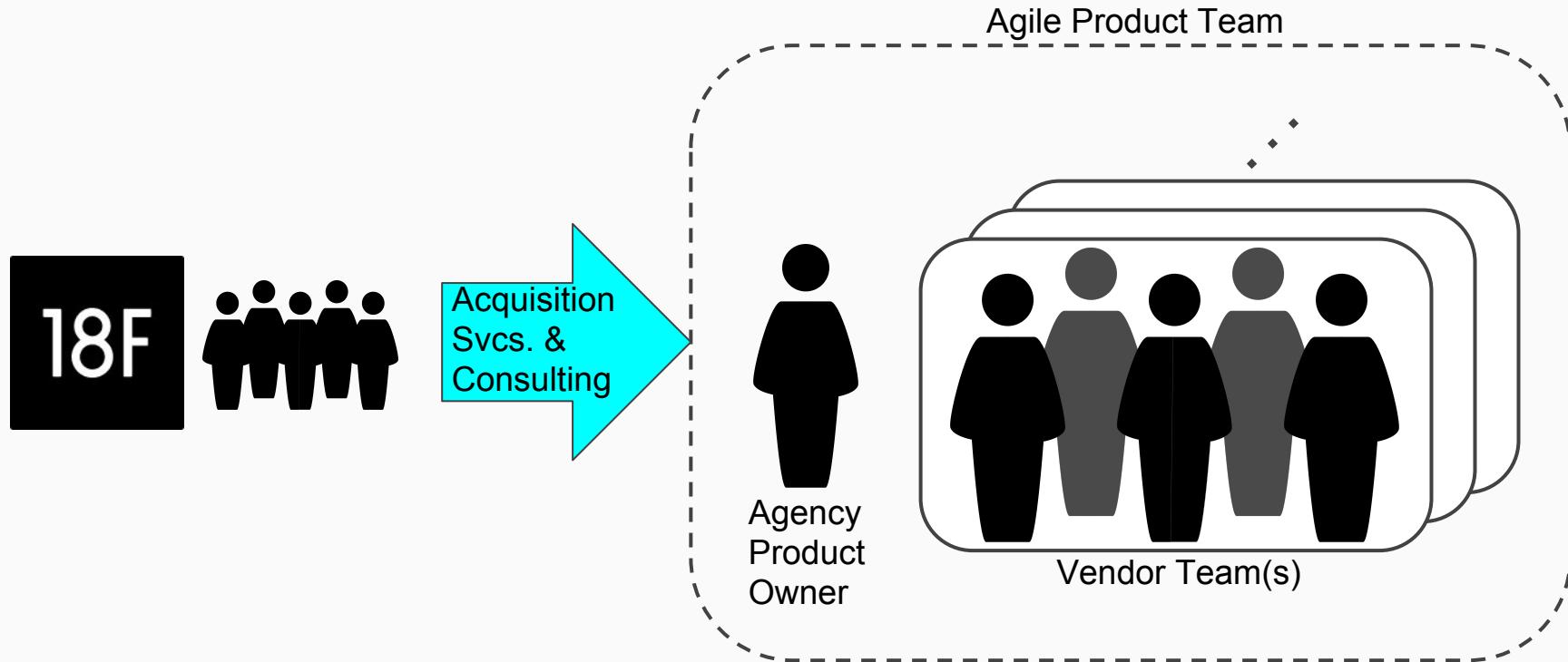
Release Burnup Chart



Velocity...

- ... is a measurement, not a prediction
- ... is not a useful way to compare teams
- ... is not necessarily a sign of team health
- ... is not a scientific unit of measurement
- ... is averaged and aggregated
- ... is statistical
- ... will vary from sprint to sprint
- ... can be a useful aid for a team in planning sprints
- ... is important for release planning and tracking

Typical Government Agile Project Structure



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- The Visual AGILExicon is used and described in the book: ***Essential Scrum: A Practical Guide to the Most Popular Agile Process.***
- You can learn more about the Visual AGILExicon and permitted uses at:
<http://innolution.com/resources/val-home-page>

