



Coaching Solutions

Using Parametric Sizing (Planning Poker) To Estimate Work

Brian Bozzuto & Jason Novack

- ▶ What's wrong with the current model?
- ▶ How do you “size” work
- ▶ How do you size an entire project?
- ▶ What do you do with story points anyway?

YOUR PROJECT PLAN...

...may be causing your project to fail.

1/3 of all projects complete on-time, on-budget, fully-functional (and much fewer than that based on original dates and actual user needs)

Parkinson's Law

→ Work will fill the amount of time allotted to complete it



Student Syndrome

→ Work will not begin until the latest possible opportunity

Why else do they fail?

Murphy's Law....



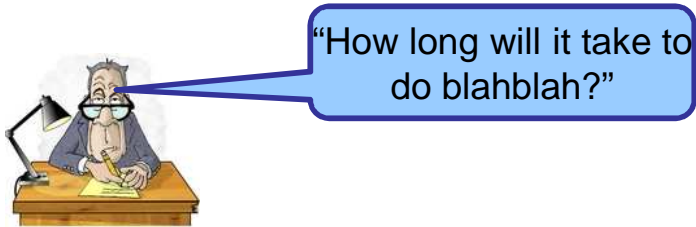
- ▶ Large, complex plans with intricate, finish-to-start dependencies
- ▶ Multitasking and “resource leveling”
- ▶ Projects become late....one task at a time...

Task Name	Duration	Start	Finish	Predecessors
<input type="checkbox"/> Create Locate Request	8 days	Fri 3/24/06	Tue 4/4/06	
<input type="checkbox"/> Analyze	1 day	Fri 3/24/06	Fri 3/24/06	
Design	2 days	Mon 3/27/06	Tue 3/28/06	3
Develop	2 days	Wed 3/29/06	Thu 3/30/06	4
Test	2 days	Fri 3/31/06	Mon 4/3/06	5
Fix bugs	1 day	Tue 4/4/06	Tue 4/4/06	6

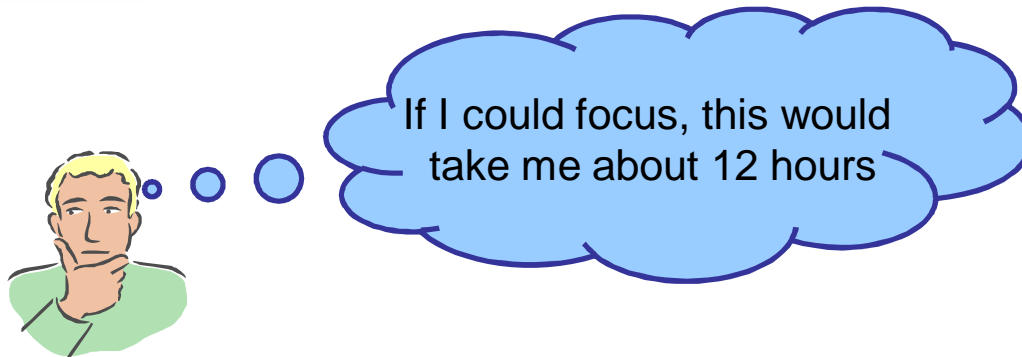
Traditional plans identify a critical path. And projects become late, one task at a time. But how do these things make an entire project late?

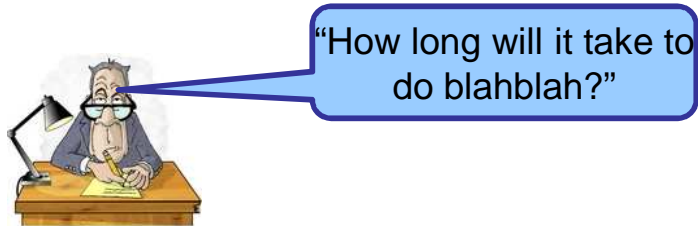
We ask a team member to estimate a task...

Sizing & Estimating

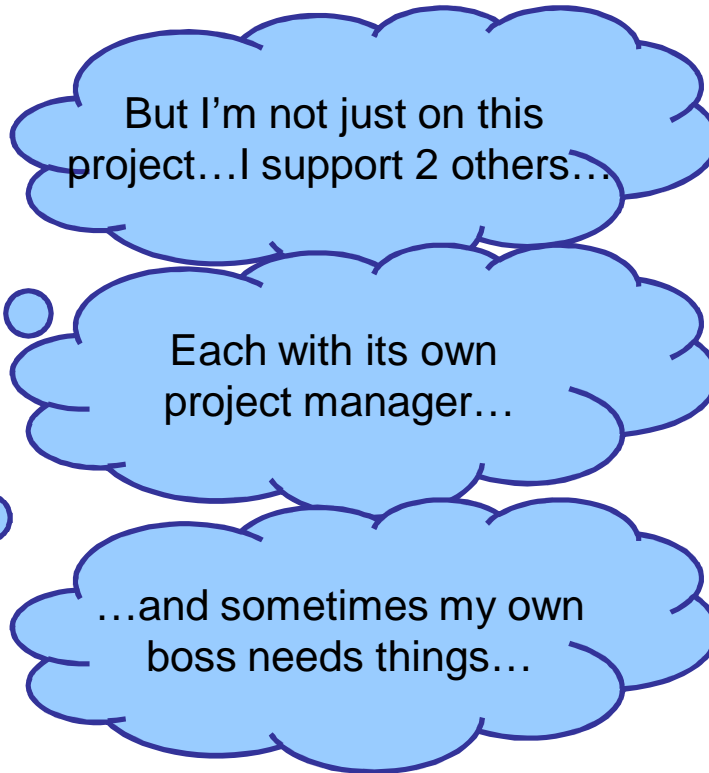


12hrs



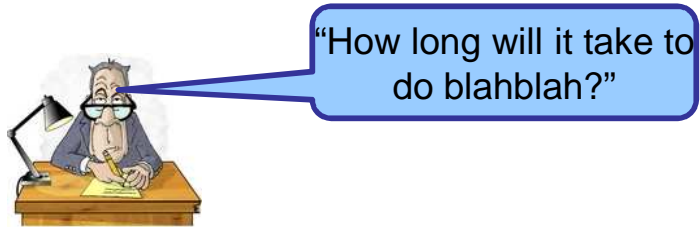


12hrs



Multitasking! Multiple Bosses!

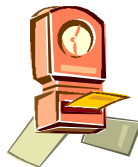
Sizing & Estimating

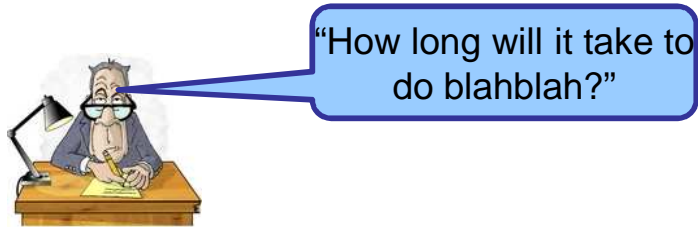


12hrs



...and support...
...and meetings...
...and other overhead...

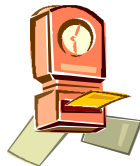
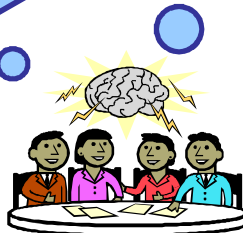




24hrs

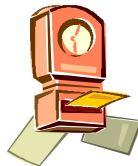
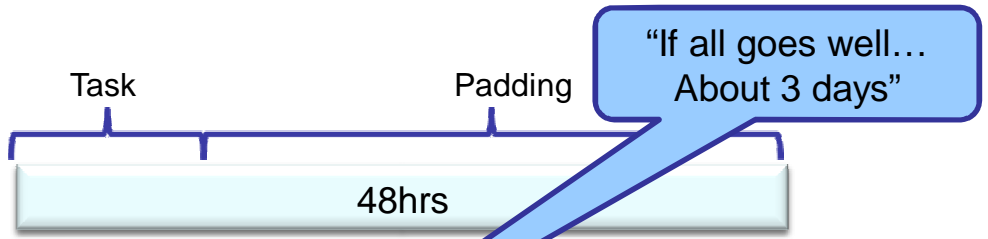
"If all goes well...
About 3 days"

...I'll double my estimate
to be safe...





...He always underestimates...
I'll double it to be safe...

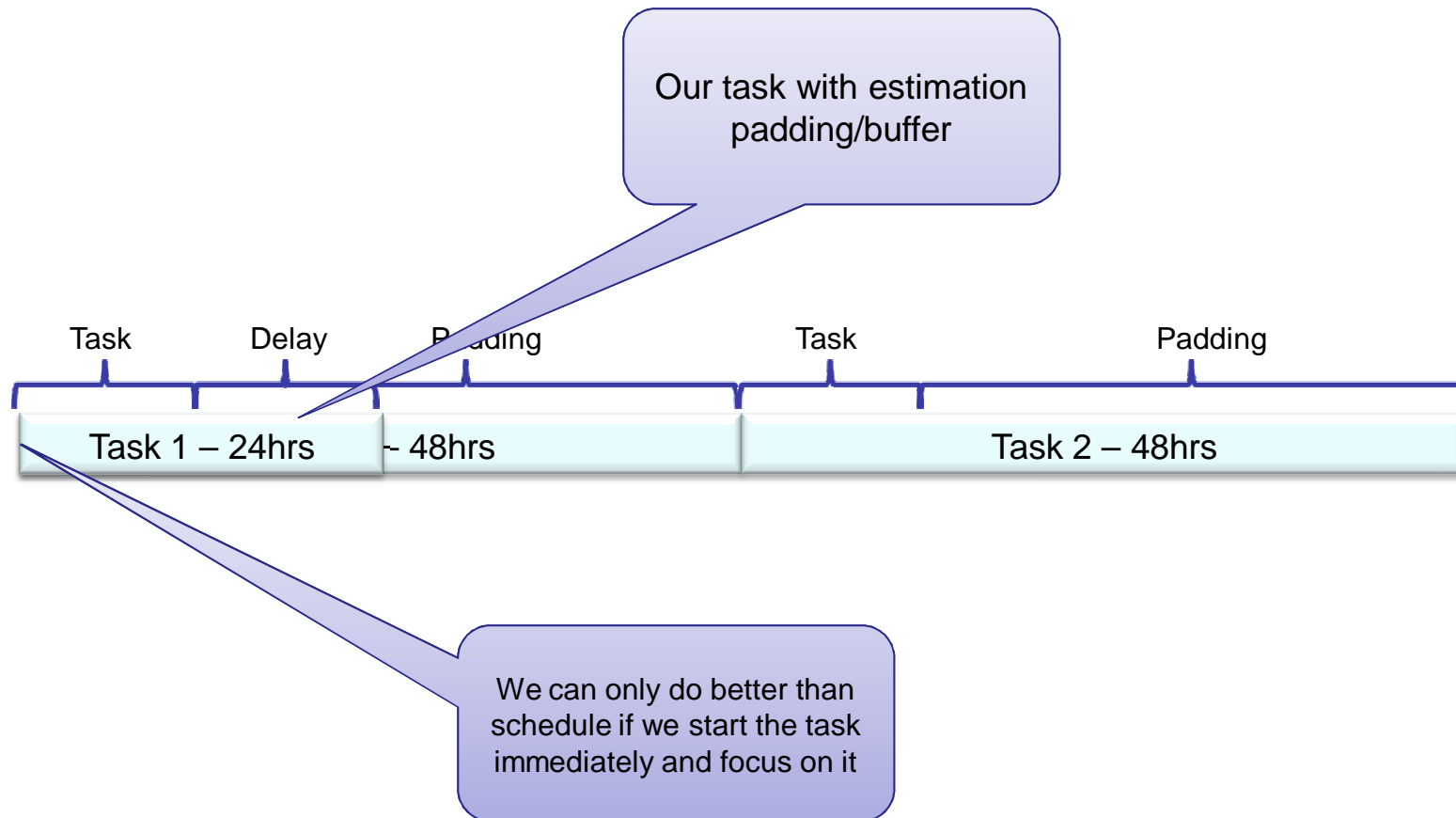


Across possibly hundreds of tasks (or more), what happens to all of that padding?

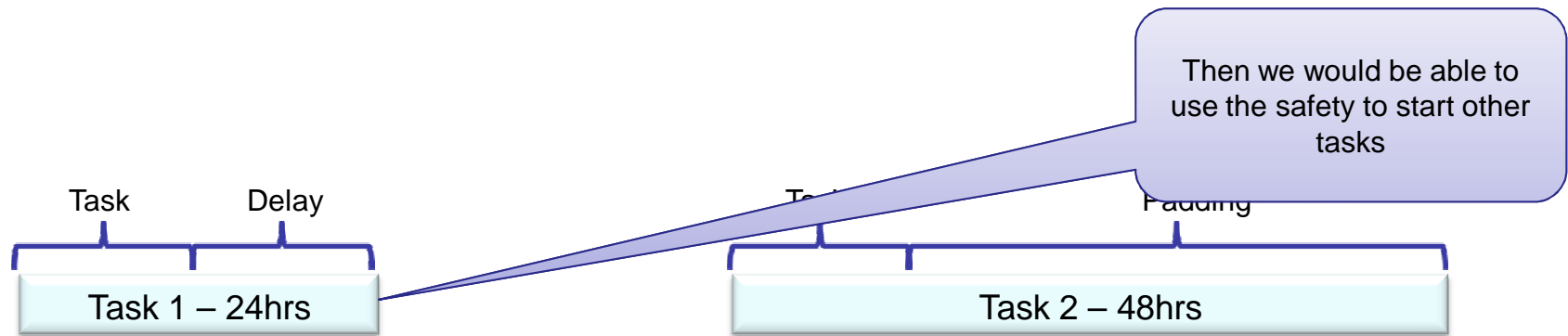
How can we possibly miss our schedule at all with so much padding?

Let's take a look at a an example...

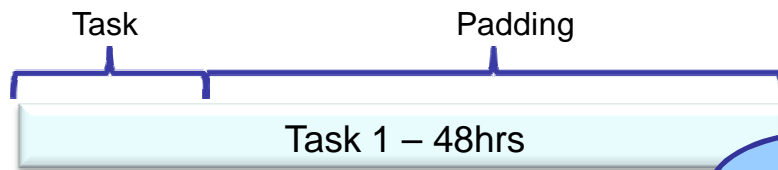
To finish early...start early...



And use the padding for delays



But we rarely finish early...



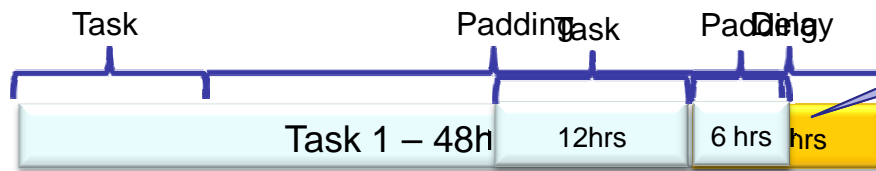
...I have plenty of time to complete this task...



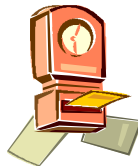
...and all these other pressing things to do and people to answer to...



We start late...and delays happen...

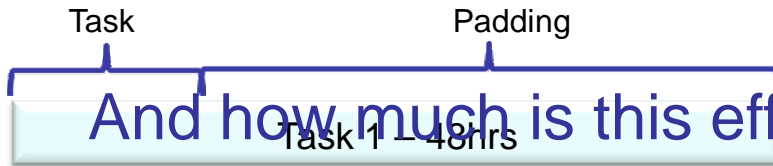


...and all these other pressing things to do and people to answer to...

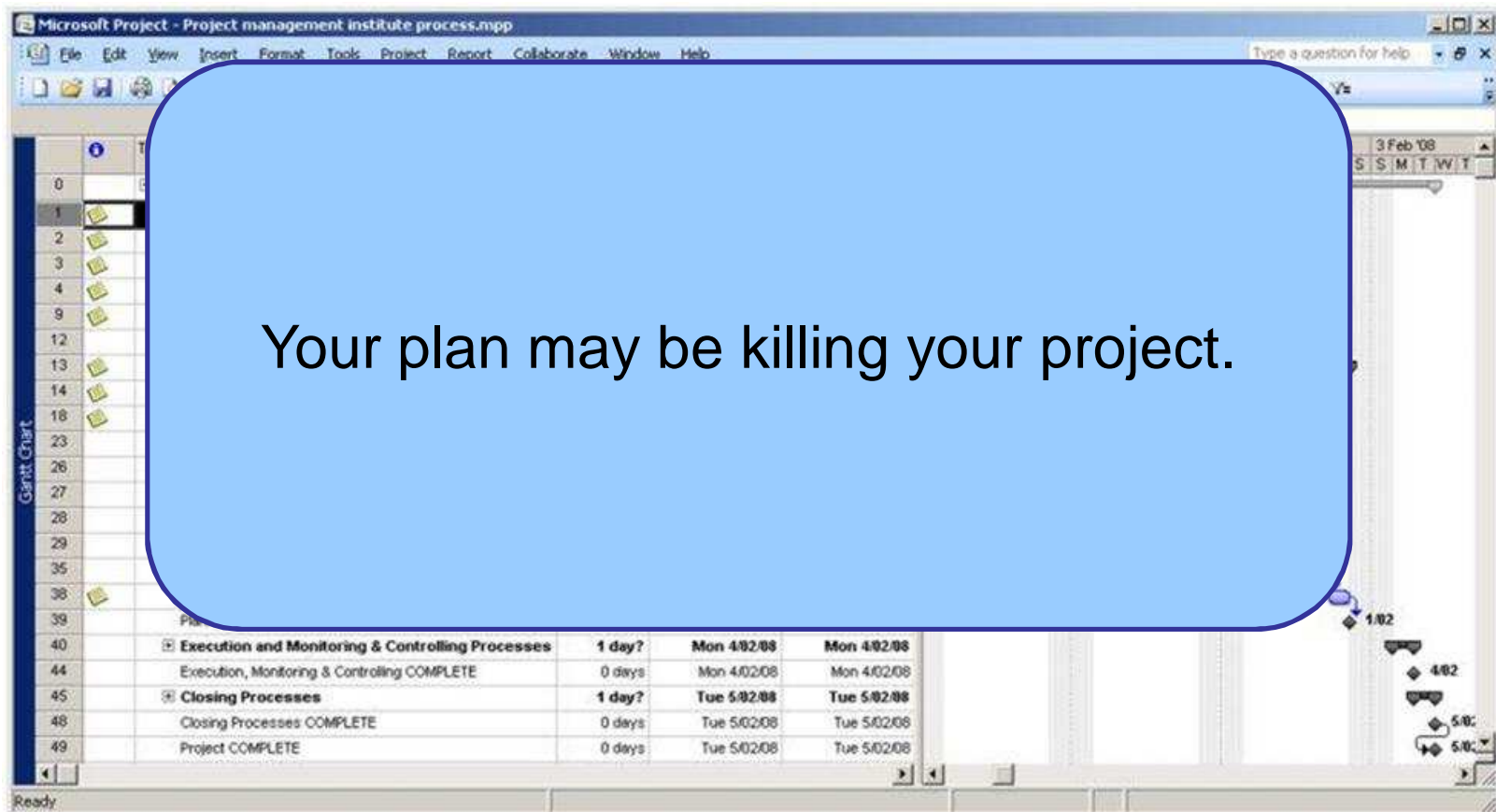


How many tasks are in your project plan?

Sizing & Estimating



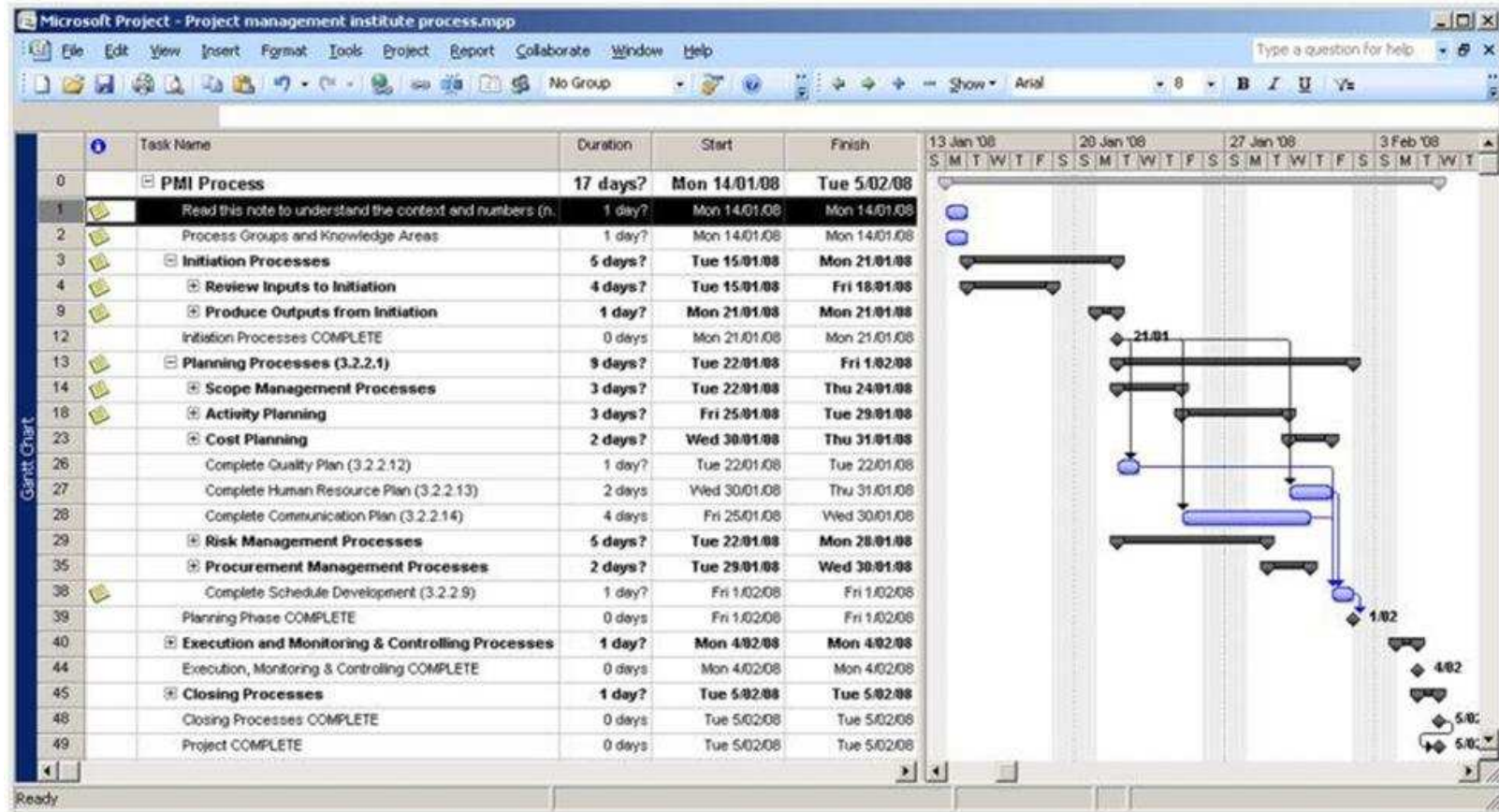
And how much is this effect multiplied across all of them?



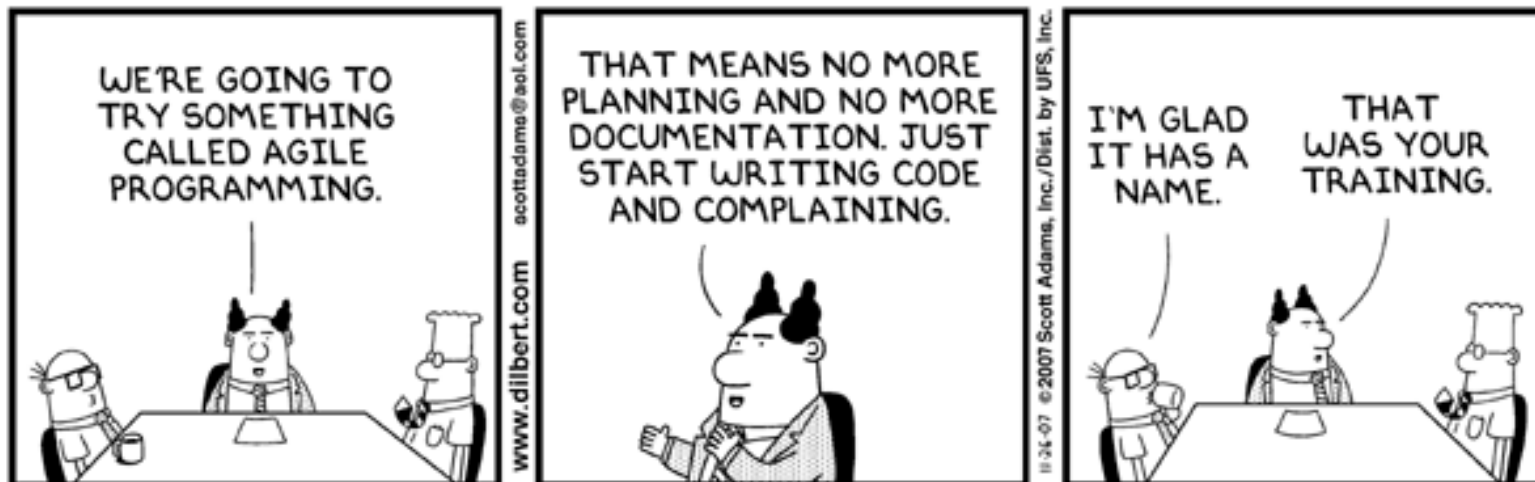
All this time...

Sizing & Estimating

...we should have been blaming our plans*



*among other things discussed in this presentation



(just kidding...agile means much more than this)

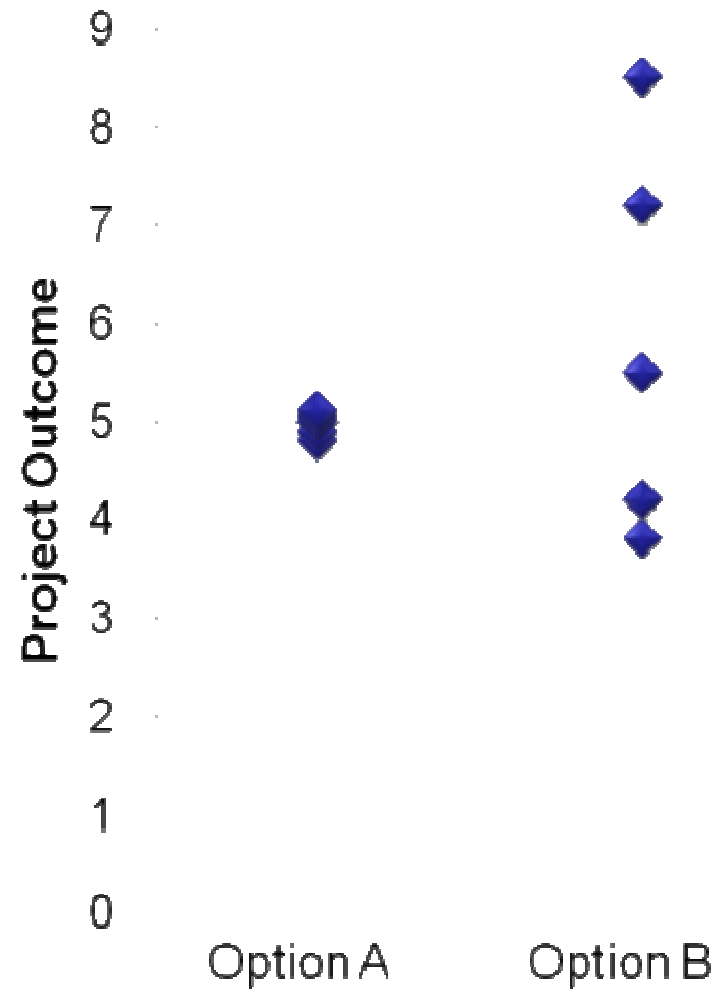
▶ Which Option Do you Choose?

▶ Average Return

→ Option A: 4.9

→ Option B: 5.8

▶ About 80% of the time, people will opt for option A (Moseman 2002, Putnam and Myers 2003)



- ▶ For each of the following questions, offer a range that you are 90% confident are correct. Be careful to not make the range too wide or narrow.

→ **Surface Temperature of the Sun**

→ **Latitude of Shanghai**

→ **Area of the Asian Continent**

→ **The Year of Alexander the Great's Birth**

→ **Total Value of US Currency in Circulation (2004) Please!**

→ **Total Volume of the Great Lakes**

→ **Worldwide box office receipts for the movie *Titanic***

→ **Total length of the coastline of the Pacific Ocean**

→ **Number of book title published in the U.S. since 1776**

→ **Heaviest blue whale ever recorded**

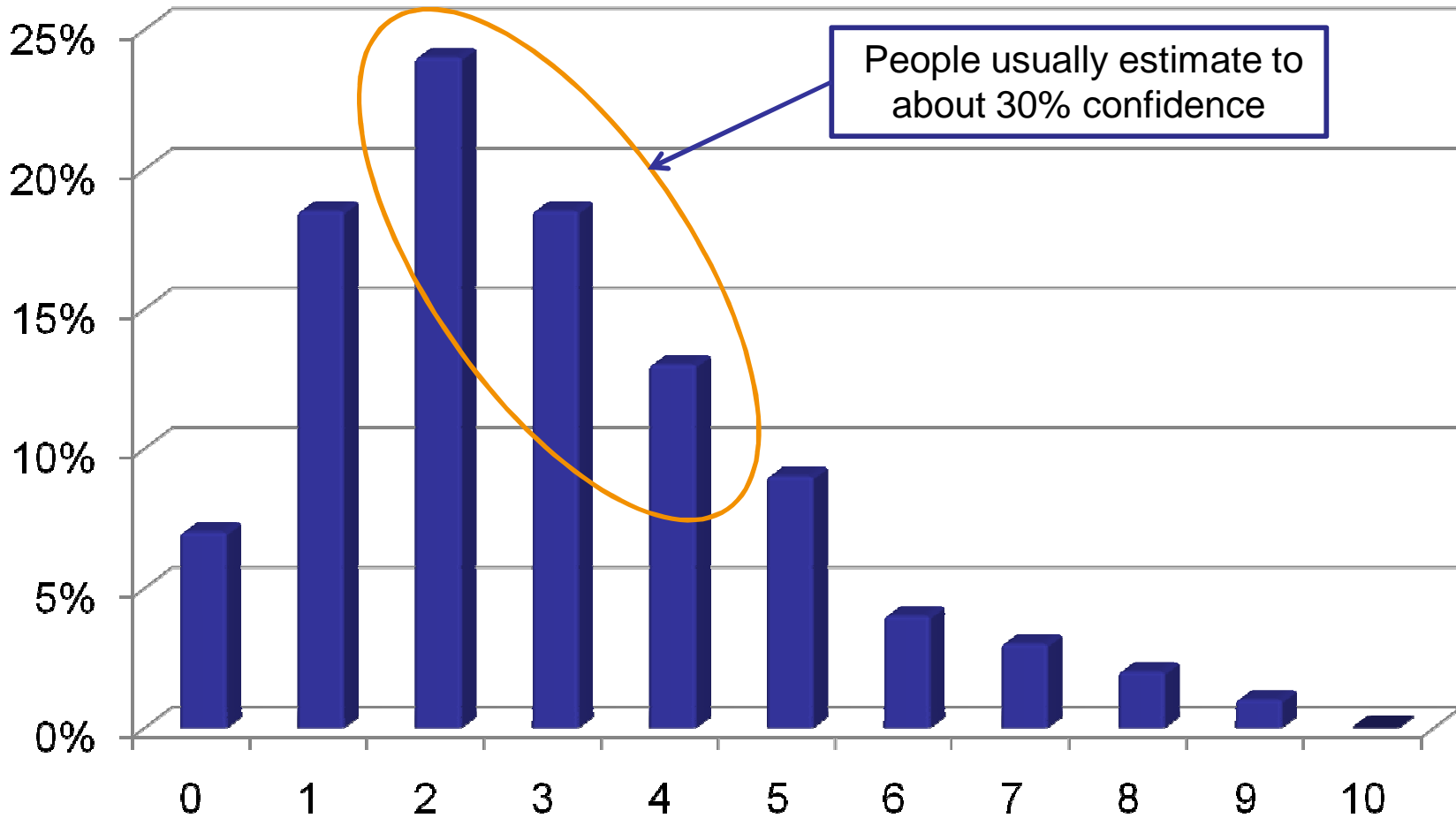


No Googling

Question	Answer
Surface Temperature of the Sun	10,000°F / 6,000°C
Latitude of Shanghai	31 degrees North
Area of the Asian Continent	17,139,000 sq. miles 44,390, sq. kilometers
The Year of Alexander the Great's Birth	356 BC
Total Value of US Currency in Circulation (2004)	\$719.9 billion
Total Volume of the Great Lakes	5,500 cubic miles / 23,000 cubic kilometers 6x10 ¹⁵ gallons / 23x10 ¹⁶ liters
Worldwide box office receipts for the movie <i>Titanic</i>	\$1.835 billion
Total length of the coastline of the Pacific Ocean	84,300 miles 135,663 kilometers
Number of book title published in the U.S. since 1776	22 million
Heaviest blue whale ever recorded	380,000 pounds 170,000 kilograms



Distribution of Correct Answers





Could you give me a quick estimate on how hard it would be to add these new features? I won't hold it against you, I just want a sense of how big it is.



*“It is better to be roughly right than precisely wrong”
- John Maynard Keynes*

- ▶ A parametric technique – compares the size of different components of work on a relative based
 - Avoids a false sense of precision
 - People are more likely to size consistently than accurately

- ▶ Wideband delphi – leverages the perspective of multiple experts in a rapid & iterative way
 - Prevents people from anchoring one another

The Rules of Planning Poker

Sizing & Estimating

- ▶ The People Doing the Work Size the Work
- ▶ A facilitator introduces each work item
- ▶ The team may ask questions
- ▶ Once questions are answered, each person privately selects a card indicating the size of the story
- ▶ Once everyone has selected a card, everyone plays their card at once
- ▶ The team discusses differences and the rationale behind their estimates
- ▶ Team members repeat the process of selecting and playing a card until the group converges

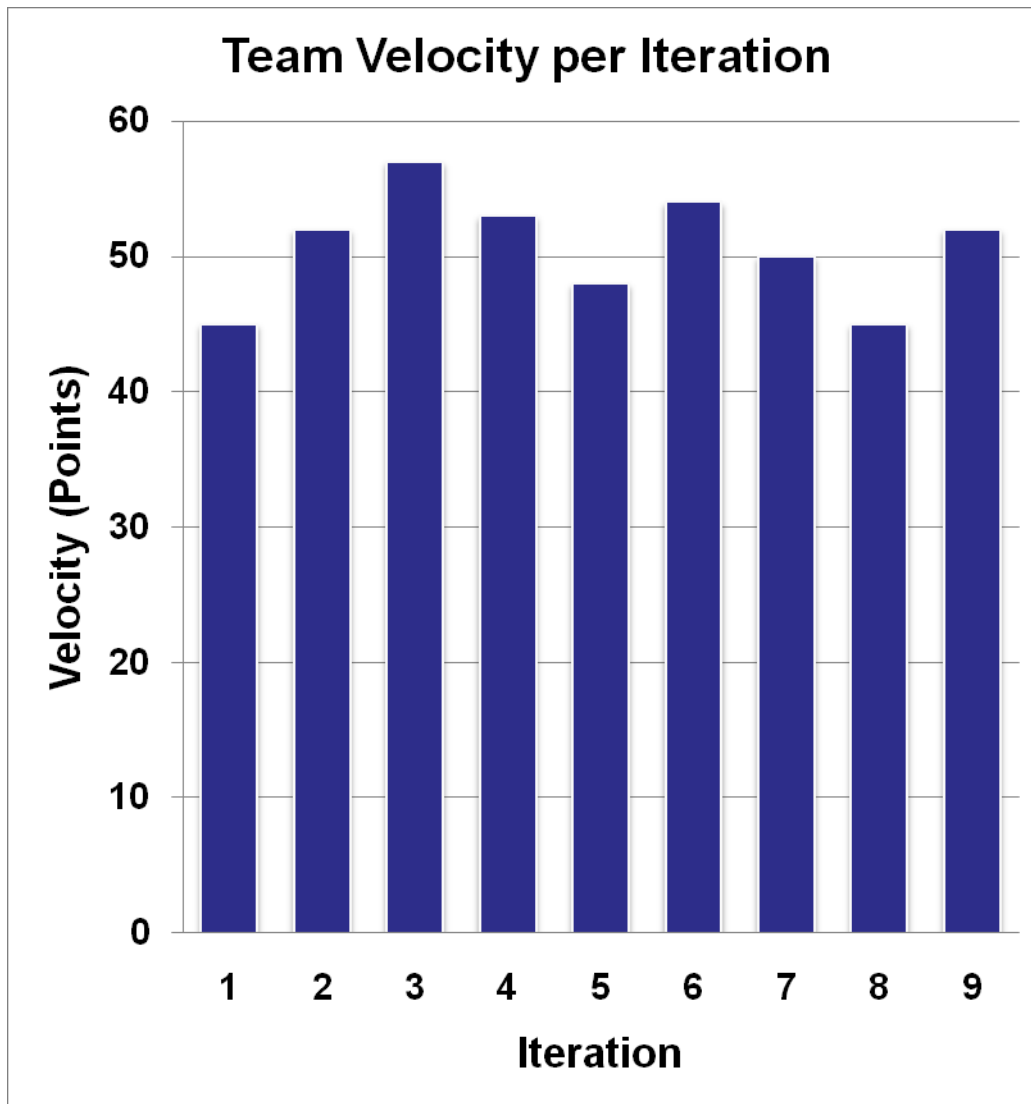


Using Sized Stories to Manage a Project

Sizing & Estimating

- ▶ Establish a Velocity
- ▶ Determine the Cost of Work
- ▶ Burn down a Release
- ▶ Manage Scope



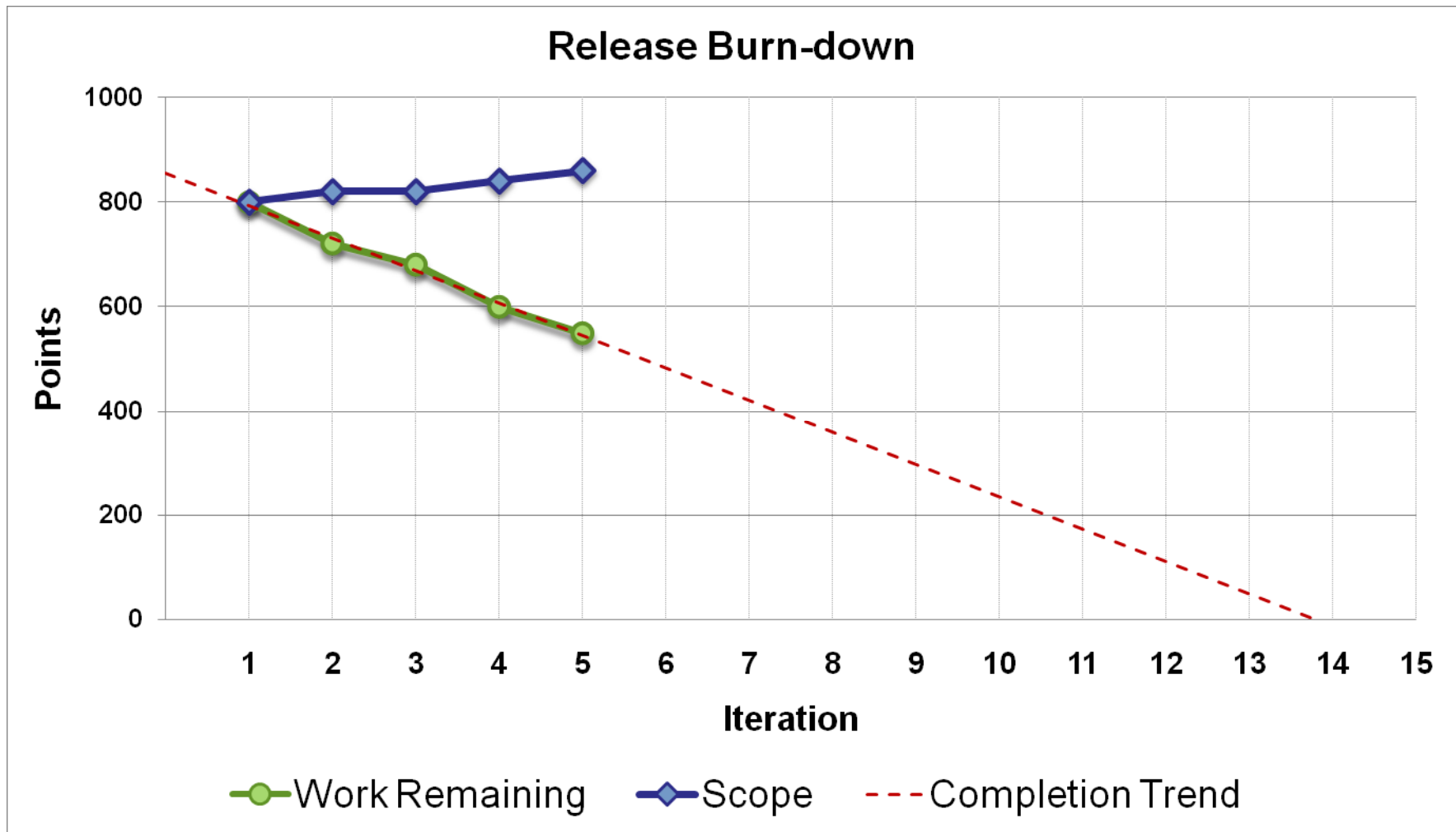


- ▶ Shows velocity history for single team
- ▶ Cannot be used to compare multiple teams
- ▶ Remember:
Past Performance Does Not Guarantee Future Results

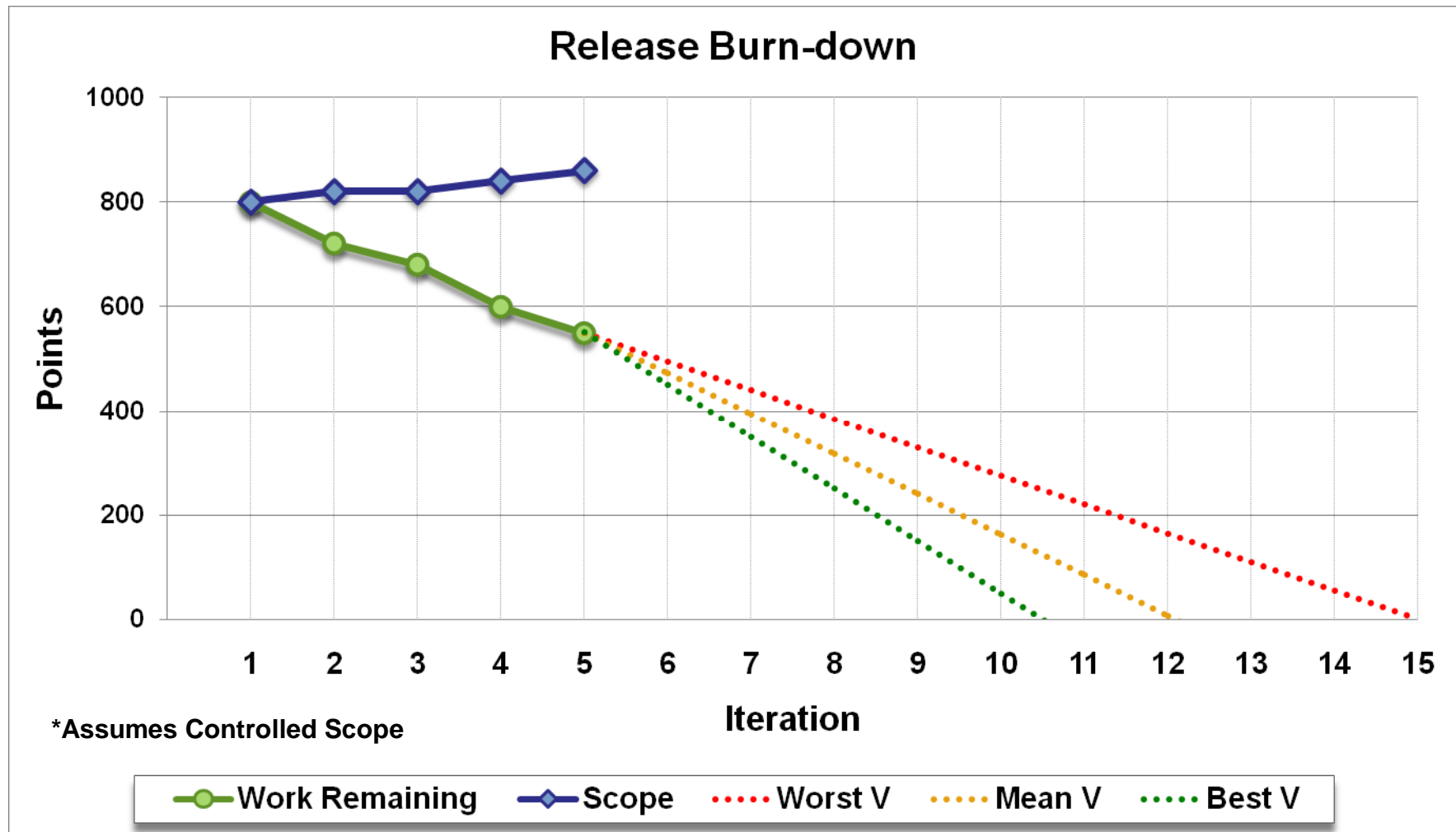
- ▶ Productivity comes at a price
- ▶ What is the cost per velocity point?
- ▶ Example:

$$\begin{aligned}\text{Cost per Velocity point} &= \frac{\text{Cost per Iteration}}{\text{Velocity per Iteration}} \\ &= \frac{\$ 100,000}{100 \text{ pts}} \\ &= \$1,000 \text{ per point}\end{aligned}$$

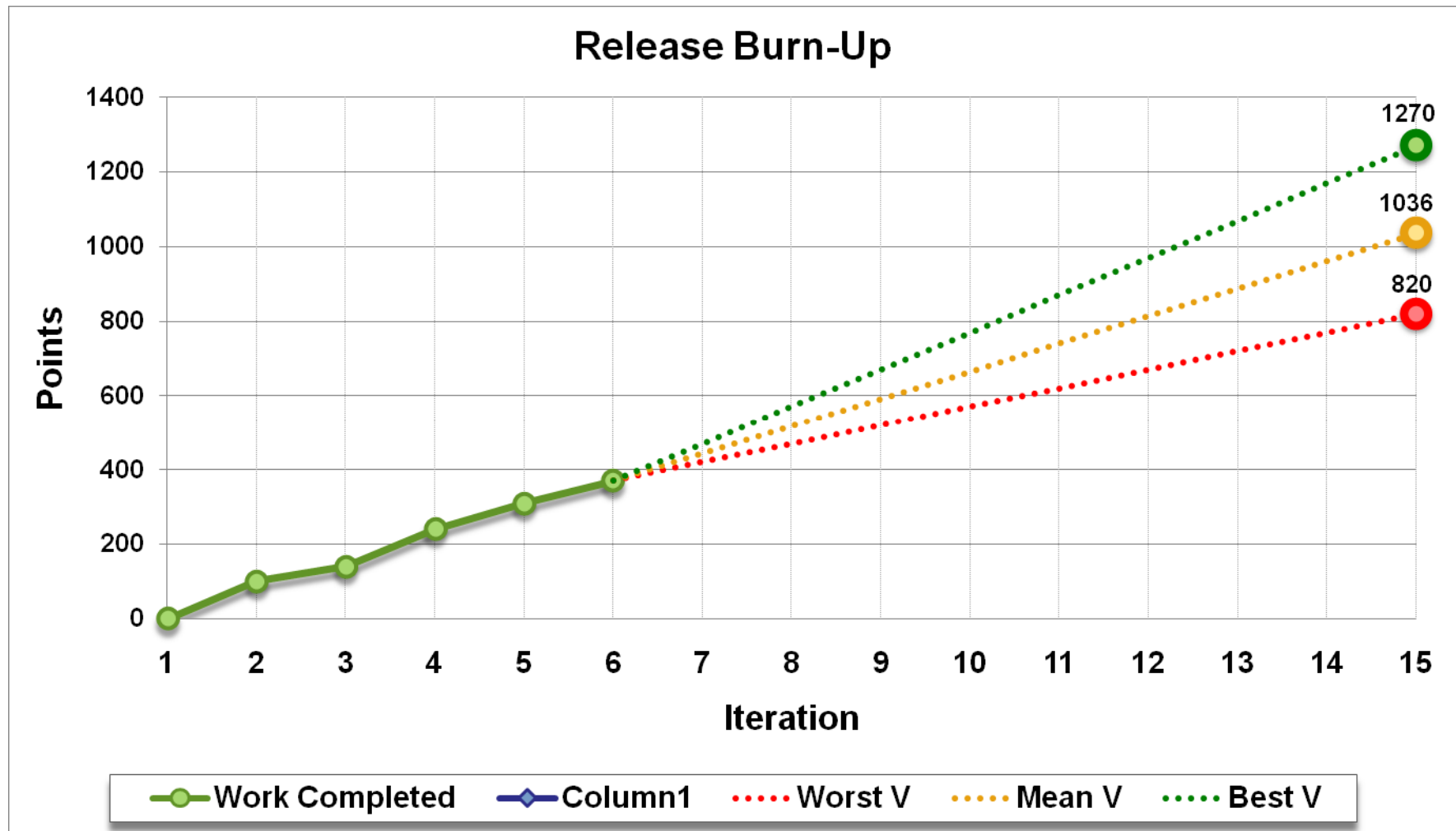
► How long will it take to release these features?



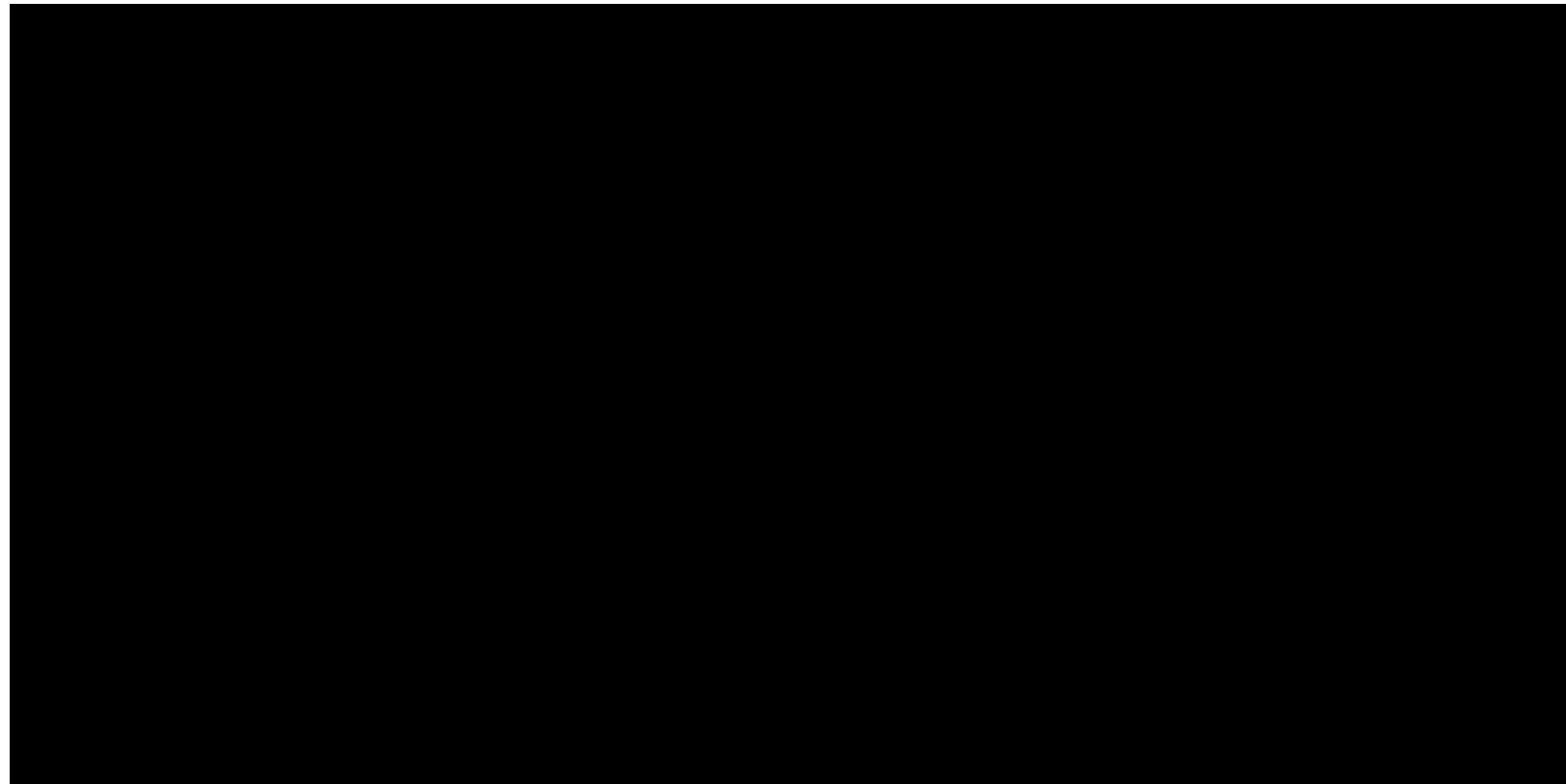
► Forecasting with Different Velocities

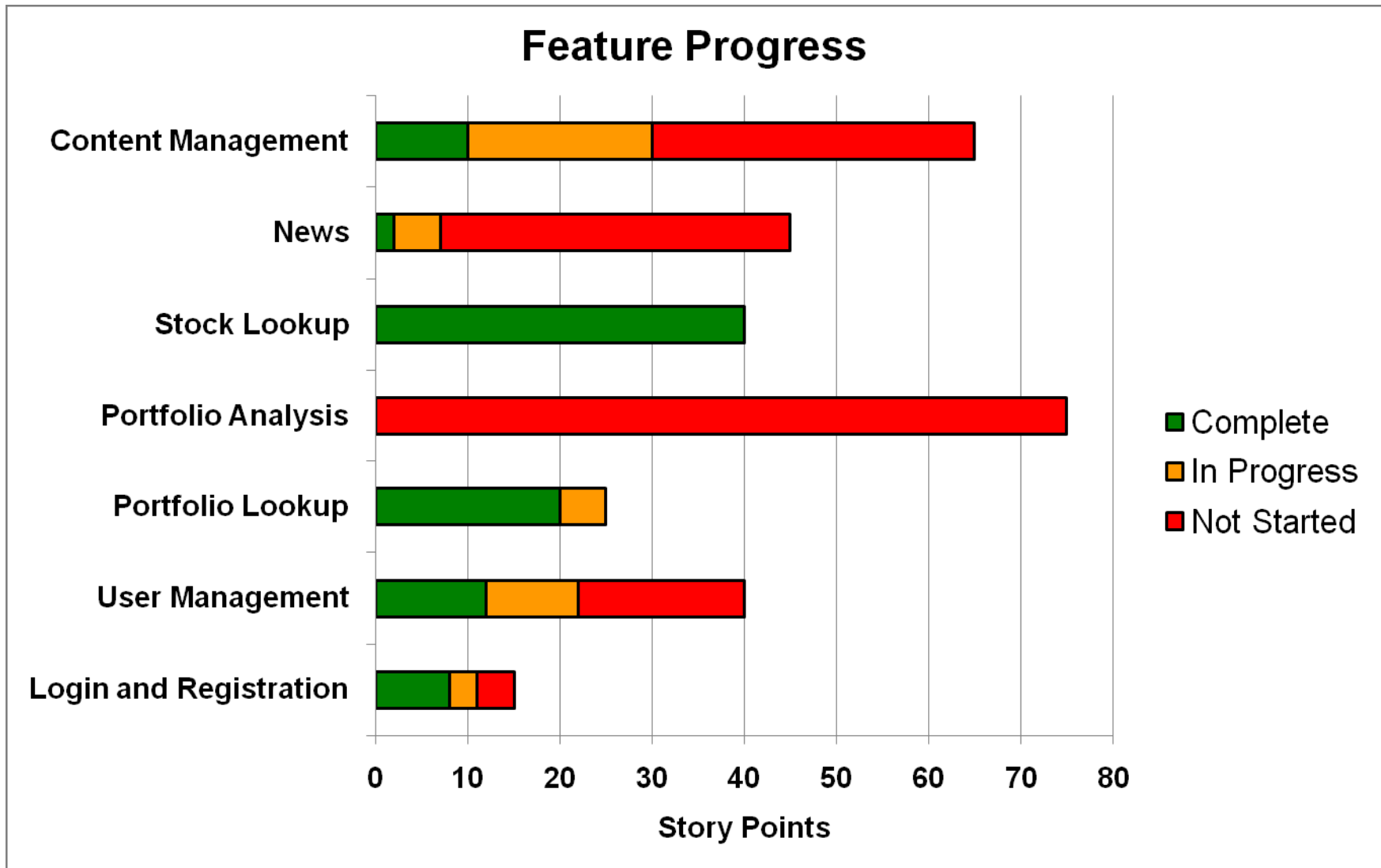


- ▶ How much can I complete within a specific timeframe (15 Iterations)?



- ▶ Stories can be grouped into features
- ▶ Progress reported based on points





Thank You!

Sizing & Estimating



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