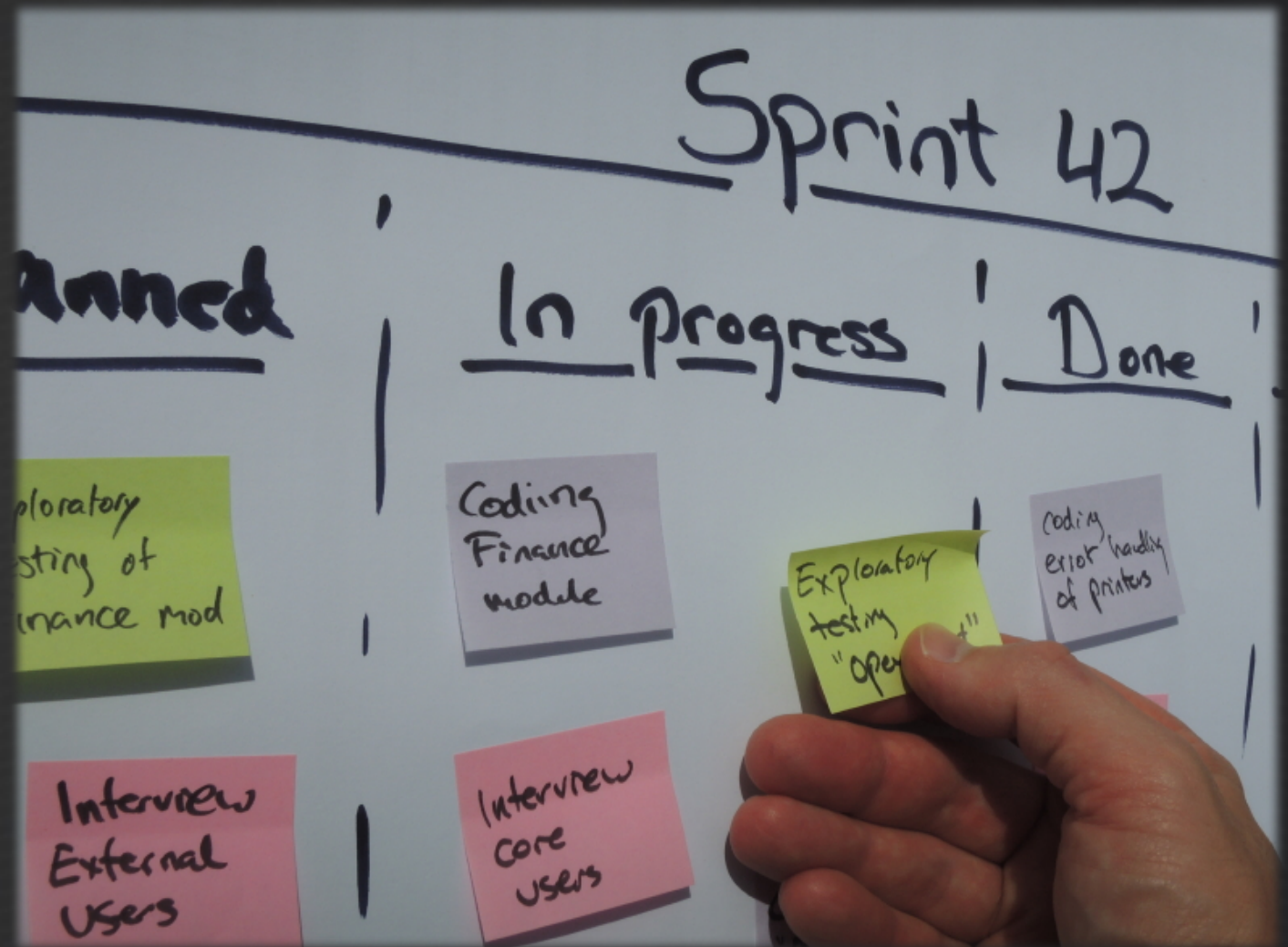


BUILDING PRODUCTS

with Agile Development



Sean Ammirati

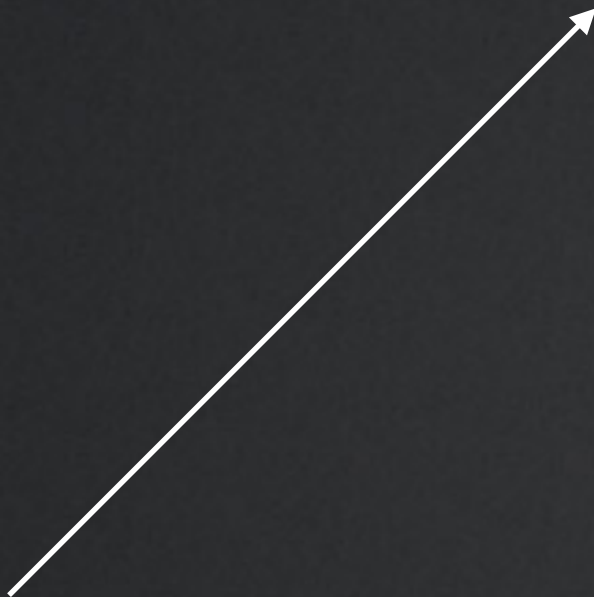
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Distinguished Service Professor of Entrepreneurship, Carnegie Mellon University

November 15, 2022

Build



Learn



Measure

What do you build?

*“that version of a new product [or service]
which allows a team to collect the
maximum amount of validated learning
about customers with the least effort”*

– Eric Reis

A high-speed photograph of a clear glass sphere shattering on a dark wooden surface. The sphere is broken into many sharp, white fragments that are flying outwards. In the background, a metallic silver ball is visible, slightly out of focus. The text "Five Misunderstandings about MVPs" is overlaid on the right side of the image.

Five **Misunderstandings** **about MVPs**

#1: Viable \neq Crappy



#2: Not a destination!



What do you measure & learn?

MAPS #1 > Concept

MAPS #2 > P-M Eval

MAPS #3 > P-M Fit

	MAP #1 PPC Campaign Landing Page	MAP #2 Product Drawings Detailed Spec	MAP #3 Prototype Functional Output
Customer Interaction	Features / Benefits description 'More info' Call to Action	Face-to-face technology demo	Field Pilot
Learning Objective	Market insight Find early adopters	Locate Strategic partners Seed Funding Paid-beta customers	Revenue Customer Validation Capital Investment
Investment	\$	\$\$	\$\$\$

#3: Validates or invalidates
key hypothesis





#4: Doesn't have to be a product at all



#5: Not always a landing page



What do you build?

Storyboards

Landing Pages

Demo Videos

Wizard of Oz

(examples)

Storyboards

A panel or series of panels of rough sketches outlining the sequence of events a consumer will experience **before**, **during** and **after** using our product / service.

Storyboards

3 Benefits

It's a mirror

Encourages customers to be more honest

YOU won't fall in Love

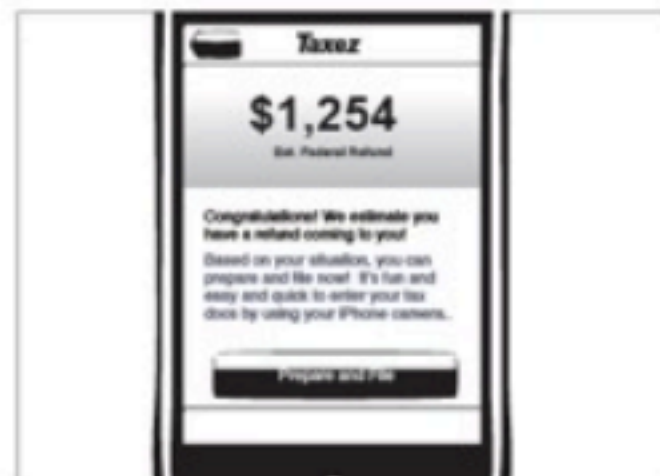
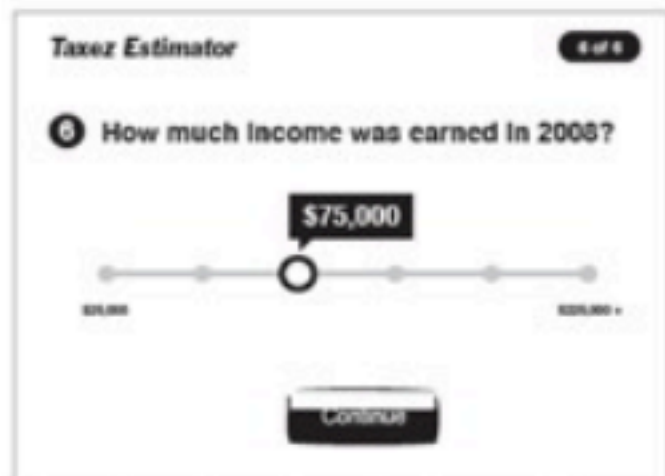
Storyboards

Sample



Storyboards

Sample

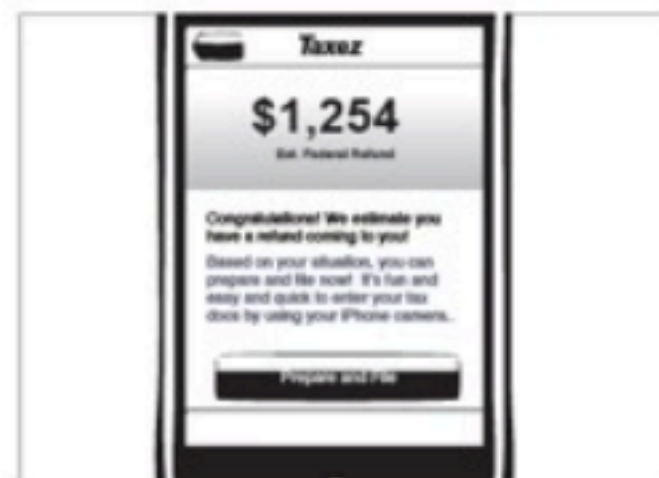
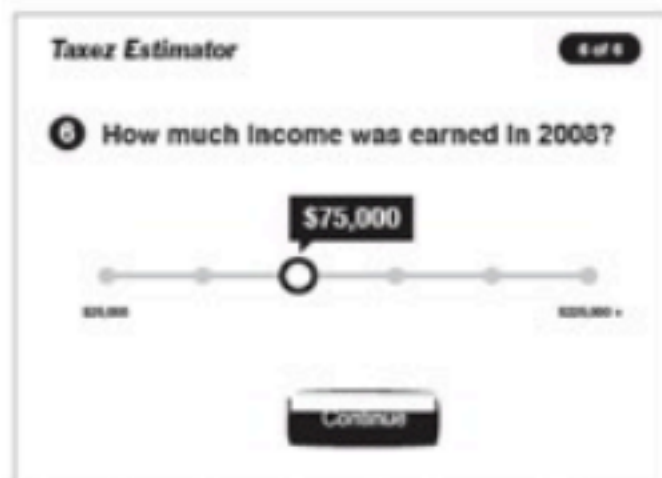


Storyboards

Sample



Wrong Problem

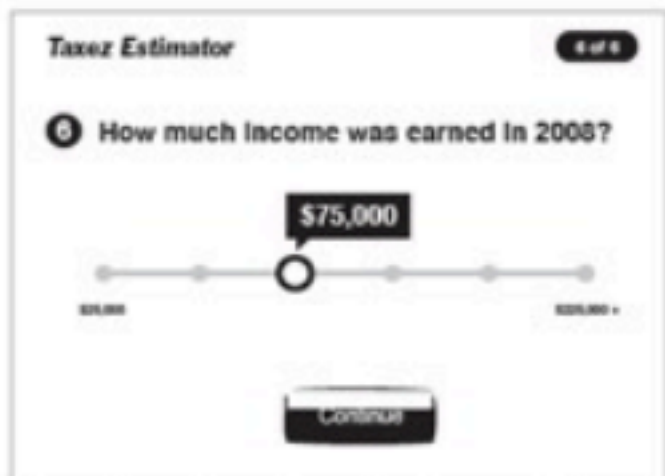


Storyboards

Sample



Wrong Problem



Wrong Benefit

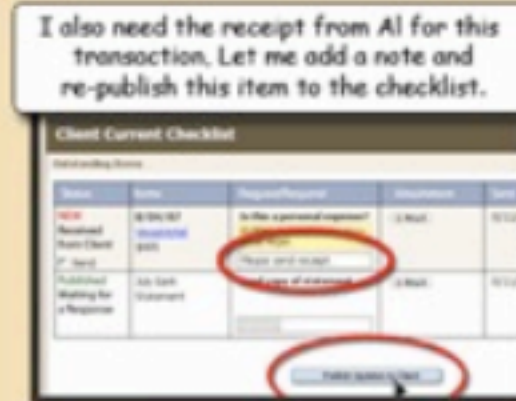
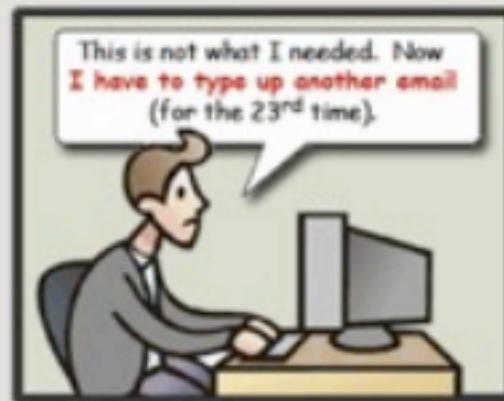


Storyboards

Sample

Problem

Solution



Benefit

Landing Pages

High Performing

User Centric

Clear & Concise

Conversion Focused

Shareable

Measurable

Consistent

Demo Video



<https://www.youtube.com/watch?v=7QmCUDHpNzE>

Wizard of Oz



How do you build?

AGILE Development

What do we mean by agile?

We value ...

Individuals & Interactions over process and tools

Working products over documentation

Customer collaboration over negotiation

Responding to change over following a plan

Why agile development?

You're wrong more than you are right

Key Metric: How fast can you iterate?

Need to Predict Delivery Times

How to do agile development?

Scrum

Engineering
Practices

This will be unique for each of you based on your team, type of solution being developed and personal preferences.

Could be: XP, Feature Driven Development, Crystal, Kanban or any other process your engineering team is comfortable with.

(often pull aspects from each)

Why do we focus on scrum?

Firsthand observed it transform & improve my last software company - mSpoke

Being used at some of the largest technology companies in the world today (Google, Yahoo!, Adobe, etc ...)

Provides a great framework for entire team to understand what is going on.

Disclaimer: Still hard to build innovative products & services and not a silver bullet

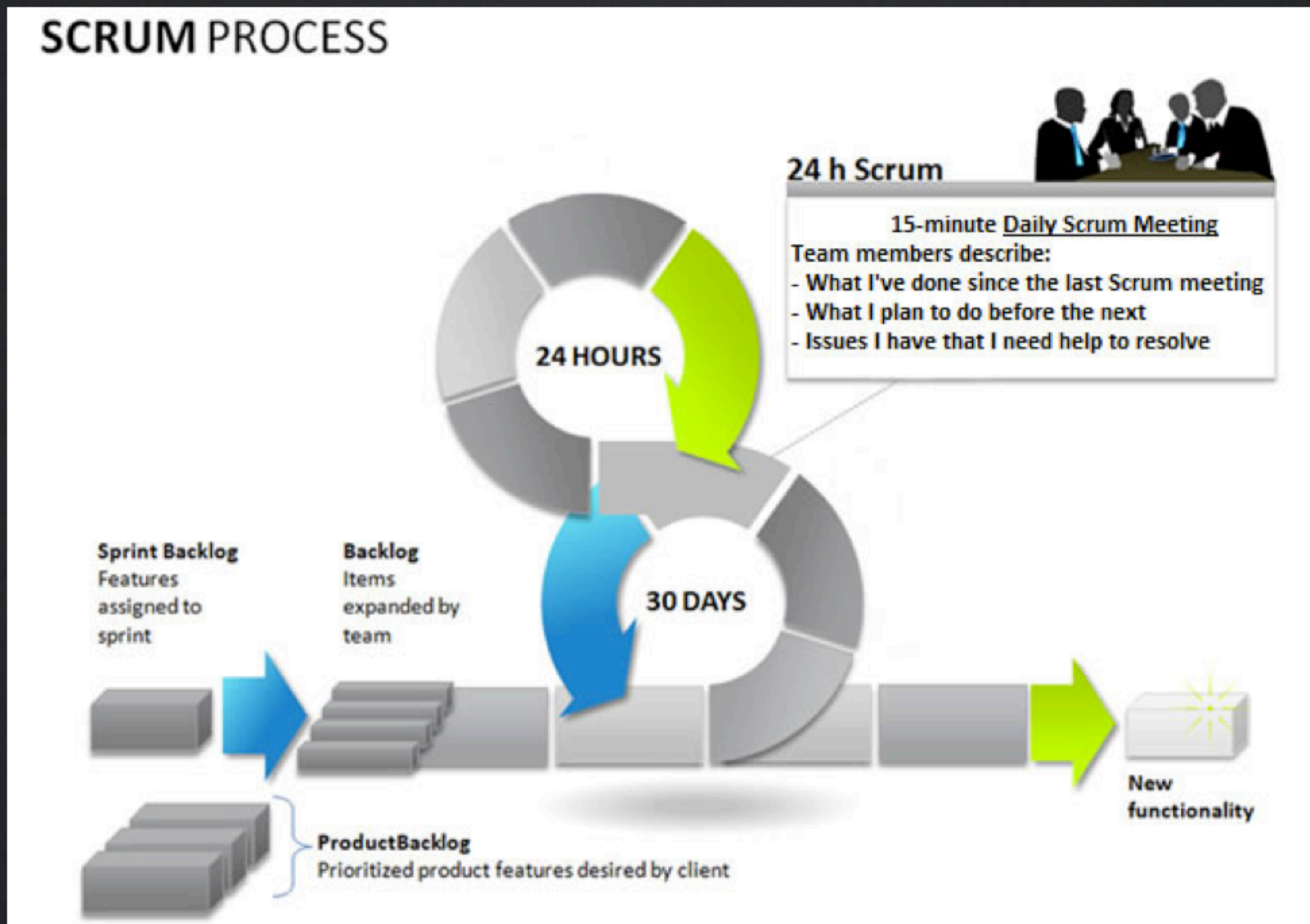
Why do we focus on scrum?



https://www.youtube.com/watch?v=XU0lIRItyFM&src_vid=Q5k7a9YEoUI

Key Themes from Scrum

The process of scrum?



Product Backlog Tips

Everyone on team should easily be able to see the backlog

I've found one "administrator" helpful logistically

If not using a full scrum tool, you can do this easily in a shared spreadsheet (eg Google Docs)

Time Box / Sprint

Each sprint:

- Lasts a defined number of days (time box)

- Has a specific set of requirements from backlog allocated to it (defined during “sprint planning meeting”)

- Has specific goals for the team to achieve (set up front) - “sprint goal”

Estimates

All estimates are forward looking

How much will it take to complete this feature / requirement?

Increasing an estimate based on learned complexity is accepted by the team

Sprint backlog estimates should be updated regularly

Velocity / Burn Down

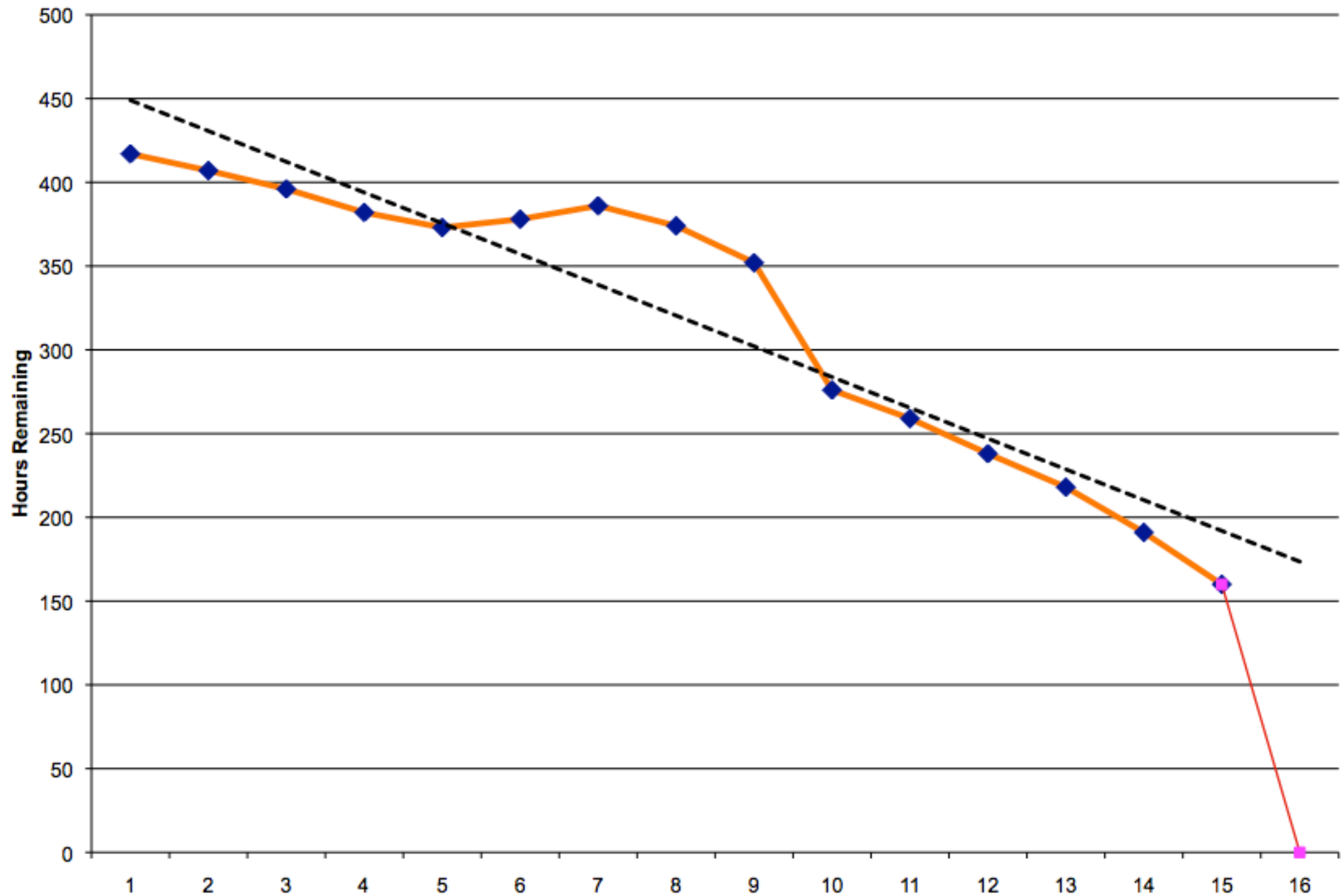
The average decrease in estimates for the total effort / time remaining is a sprint's velocity

Overtime velocity becomes very helpful for planning purposes

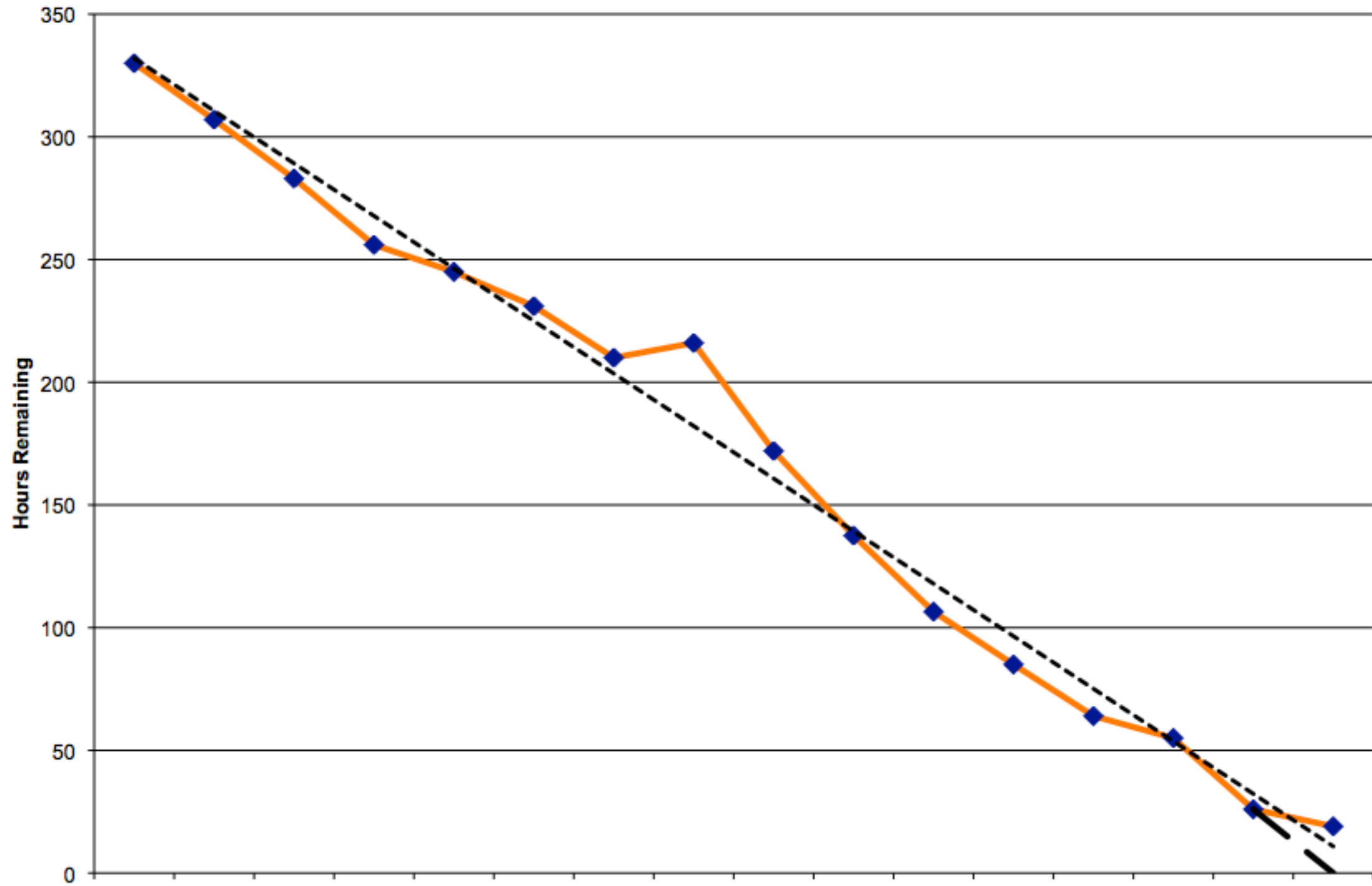
The chart showing daily total of time remaining is called a burn down chart or sprint's signature

			Sheets	Charts	SmartArt Graphics		WordArt				
◇	A	B	C	D	E	F	G	H	I		
1	Sprint Back Log										
2											
3	Who	Description	Original	6/20/07	6/21/07	6/22/07	6/25/07	6/26/07	6/27/07		
4	Create a QA environment in data center										
5	Jim	Create	8	8	8	8	4	4	4		
6	Port webui JSP templates to Velocity										
7		Port						4	1		
8		Test						1	1		
9	Improvements to thumbs-up and thumbs-down landing pages										
10		Place 'powered by mSpoke' image on Left side nav bard		1	1	0	0	0	0		
11		Show rating widget in thumbs-up page		1	1	0	0	0	0		
12		Move page header above cred space on items memes page		1	1	0	0	0	0		
13		Change "thanks for letting us know" on thumbs-up		1	1	0	0	0	0		
14		Make "Powered by Technorati" image smaller		1	1	0	0	0	0		
15		Move "Powered by Technorati" icon underneath results on thumbs-up page		1	1	0	0	0	0		
16		Add box around Technorati results on thumbs-up page		1	1	0	0	0	0		
17	Improve Thumbs Up / Down Interaction										
18	John	Investigate	8	8	8	8	8	8	8		
19	John	Fix / Improve	22	22	22	22	22	22	22		
20	#1896 should prioritize initial processing of new input feeds over re-processing of old ones										
21	Dean	Fix	8	0	0	0	0	0	0		
22	#1908 - need user administration page for deleting a user and/or personalized feed										
23	John	Fix	4	4	4	3	3	3	3		
24	#1977 Meme's Icon and Label below mouse pointer should resize accordingly on drag										
25	Evan	Fix	2	2	2	2	2	2	2		
26	#2003 Meme display doesn't animate in NetNewsWire										
27	Evan	Fix	5	5	3	3	3	3	3		
28	Better error handling implementation in the client across the board										
29	Brian	Centralized UI for error handling	8	8	7	7	2	2	2		
30	Brian	Develop useful messages for current errors thrown	8	8	8	8	8	8	8		
31	Better architecture for error handling between client and server in general										
32	Brian	Better passing of error context from server to client	8	4	3	3	3	3	3		
33	Brian	Integrate Spring's Message Resources	4	0	0	0	0	0	0		
34	Strip out malicious HTML / JavaScript @ Our WWW Display (HTML)										
35	All	Identify Cases	4	4	4	4	4	4	4		
36	Controller Unit Test Infrastructure										
37	Zach	Learn Spring	8	8	8	8	8	8	8		
38	Zach	Research existing implementations	4	4	4	4	4	4	4		
39	Zach	Build framework	8	8	8	8	8	8	8		
40	500 user load test										
41	Ian / John	Test	4	4	4	4	4	4	4		
42	#2032 Need to implement Status Edit link as spec'd										

Velocity / Burn Down



Velocity / Burn Down



Sprint Review

At the end of the sprint, the team demonstrates what they have built

Compares against the sprint's goals

Retrospective to look for improvements at the end of the sprint

Thank you

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