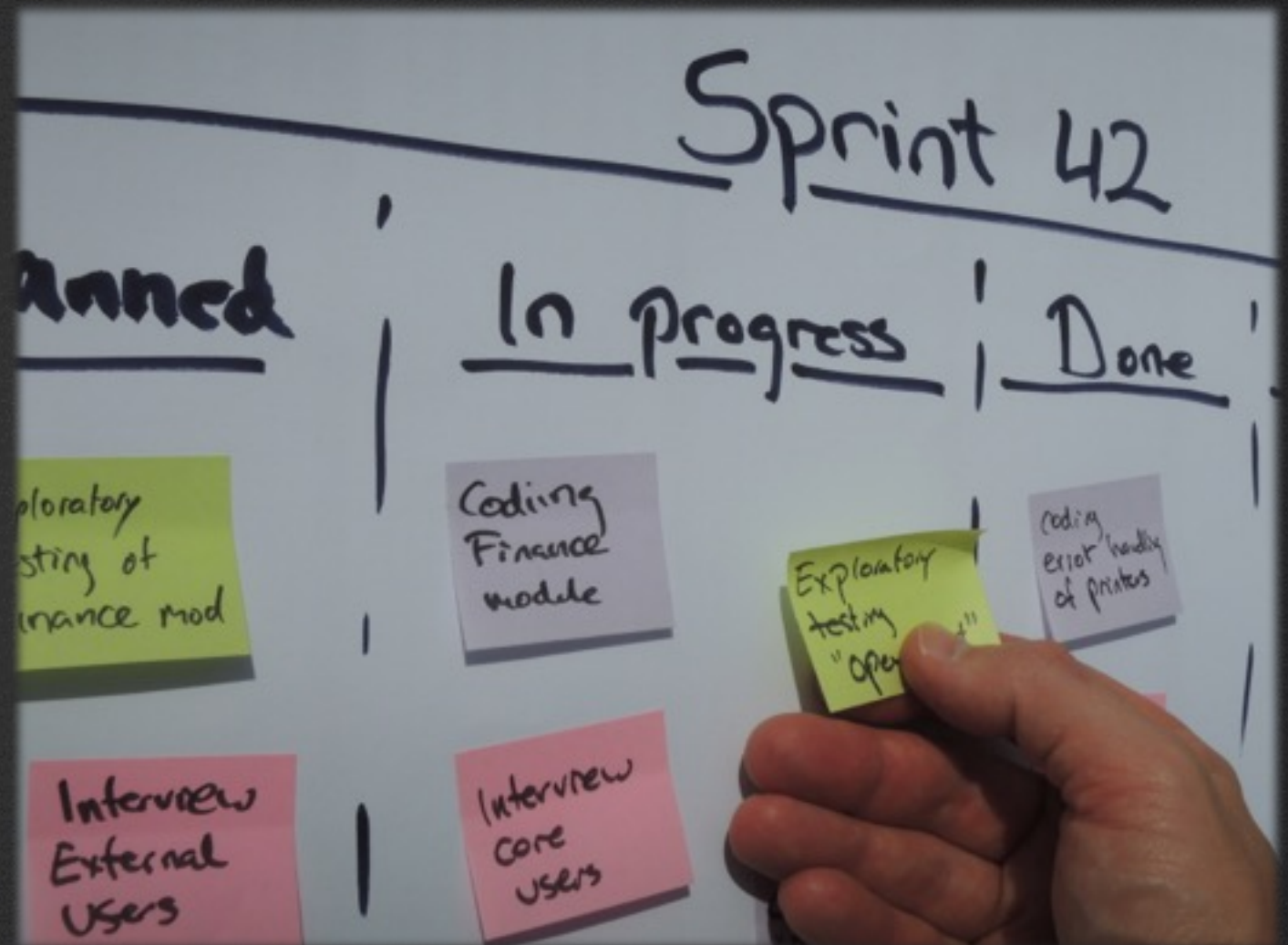


BUILDING PRODUCTS & SERVICES

with Agile Development



Sean Ammirati

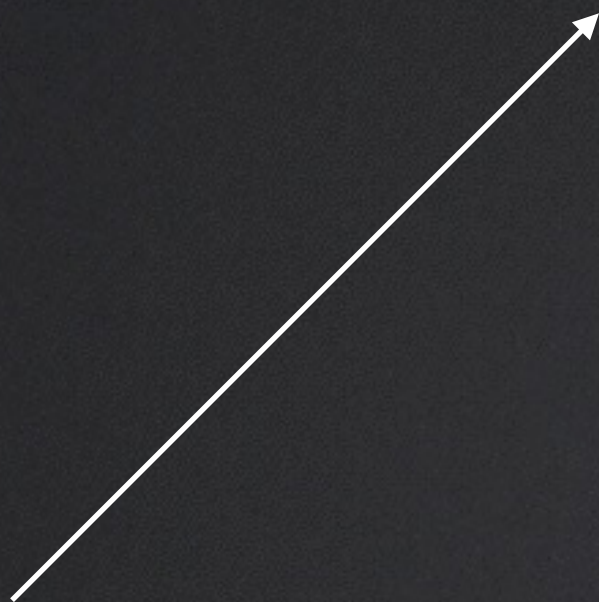
@SeanAmmirati

Partner, Birchmere Ventures

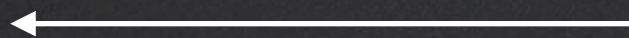
Adjunct Professor, Carnegie Mellon University

October 14, 2015

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

What do you *build*?

Storyboards

Landing Pages

Demo Videos

Wizard of Oz

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

3 Benefits

It's a Mirror

Telling the customer's story from their context
- how they will use the product / service

Encourages
Customer
Honesty

Storyboards
3 Benefits

Easier to react honestly to
rough sketches
than final pixel perfect images

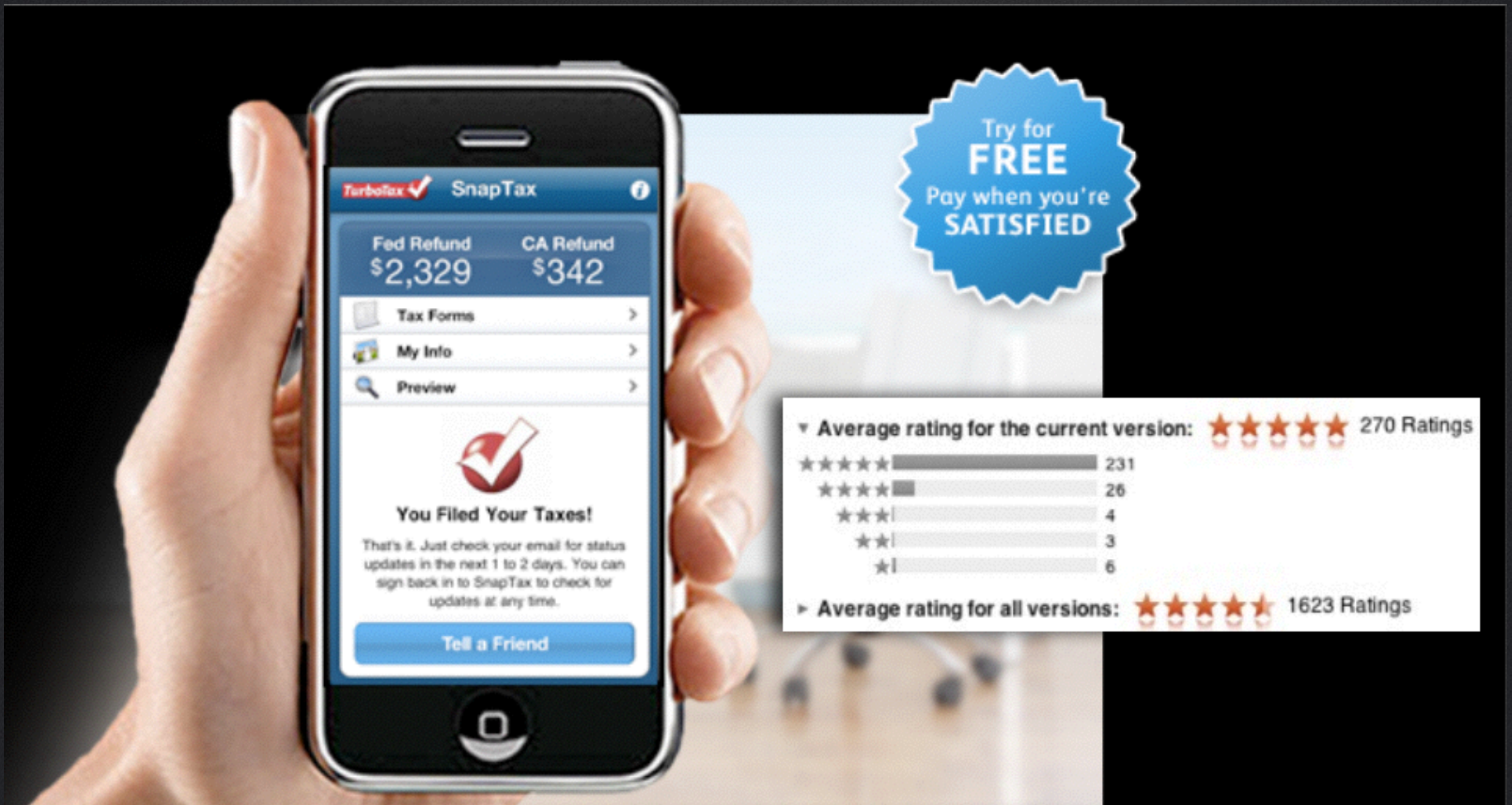
YOU
will NOT
Fall in Love

Storyboards
3 Benefits

Never seen anyone
fall in love with
their story board

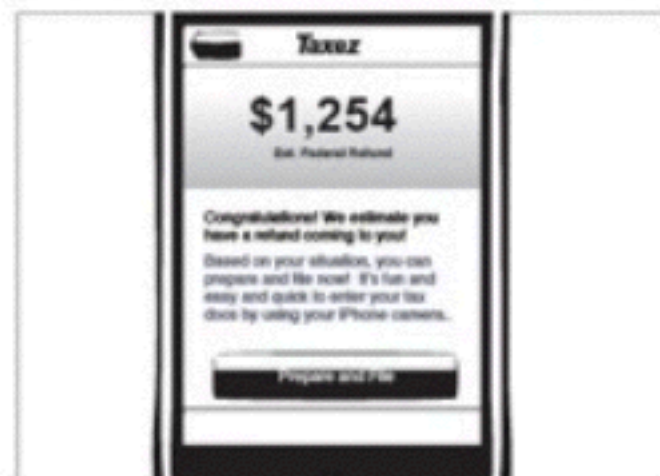
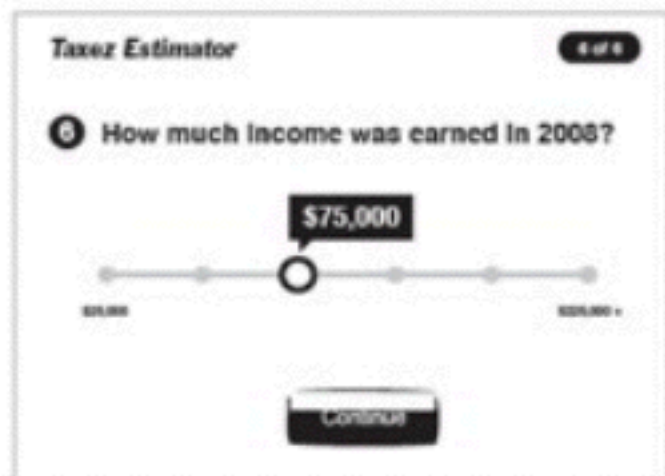
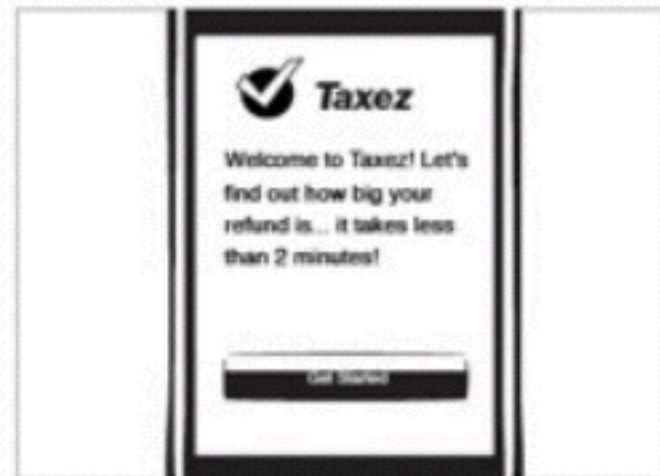
Storyboards

Sample



Storyboards

Sample

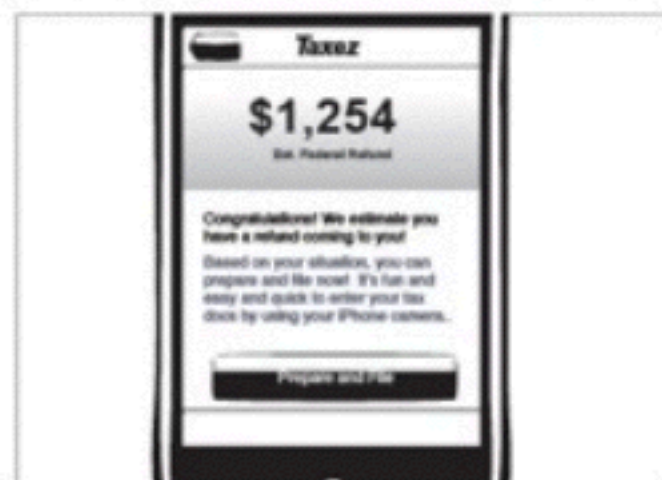
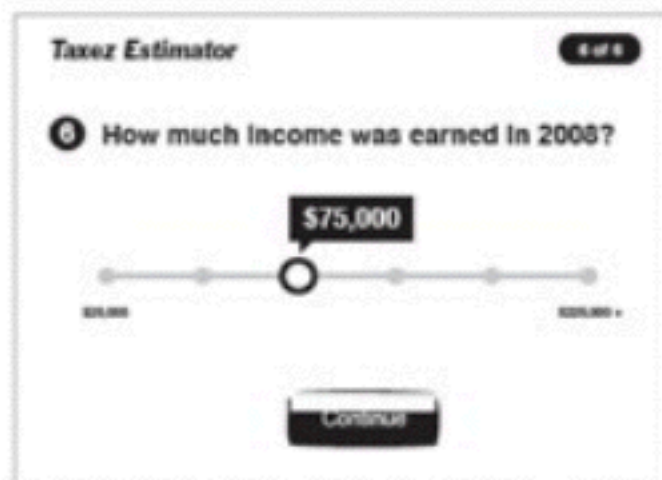
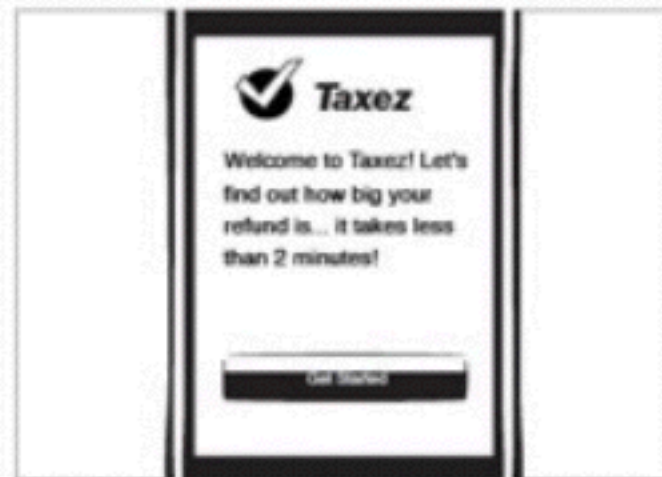


Storyboards

Sample



Wrong Problem

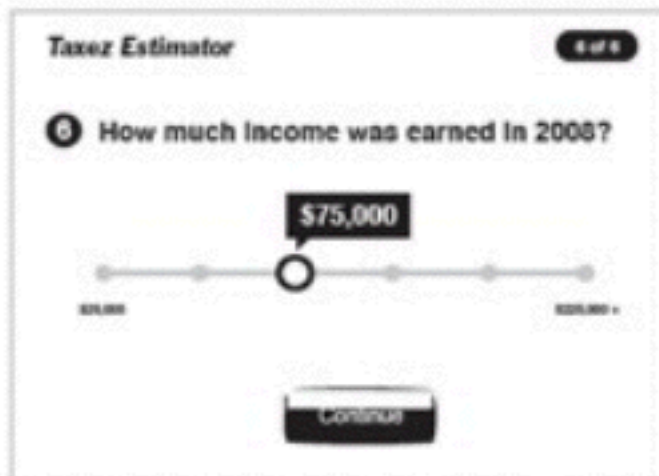
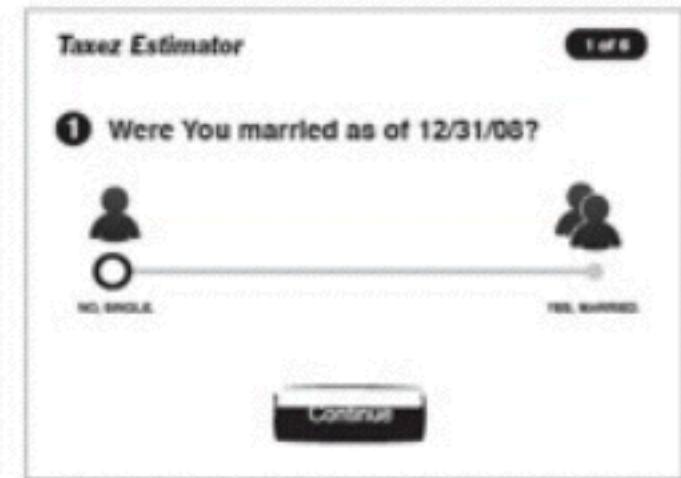
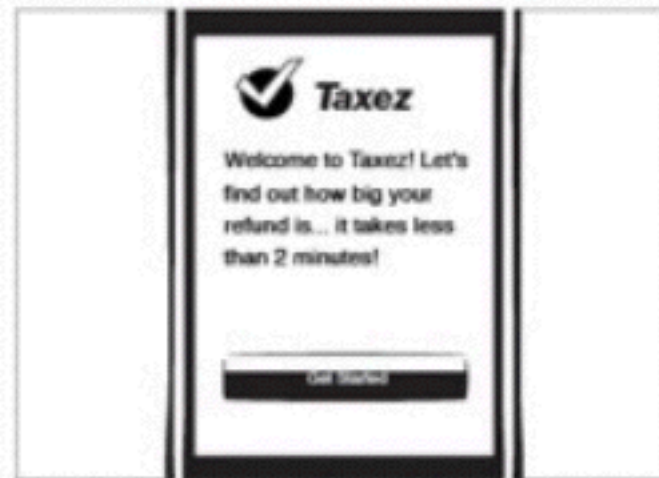


Storyboards

Sample



Wrong Problem



Wrong Benefit

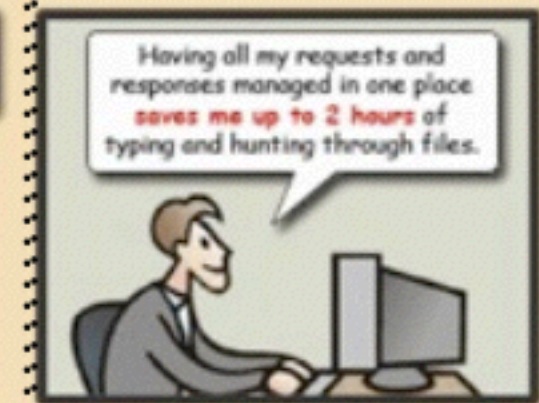
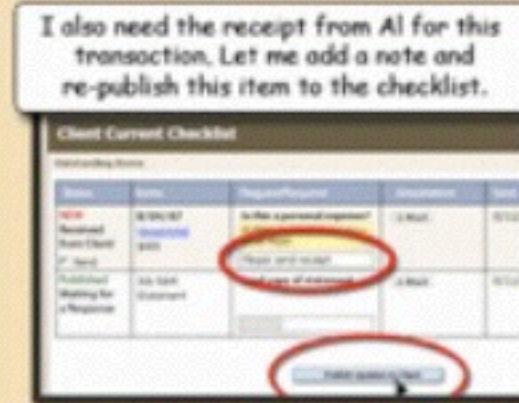
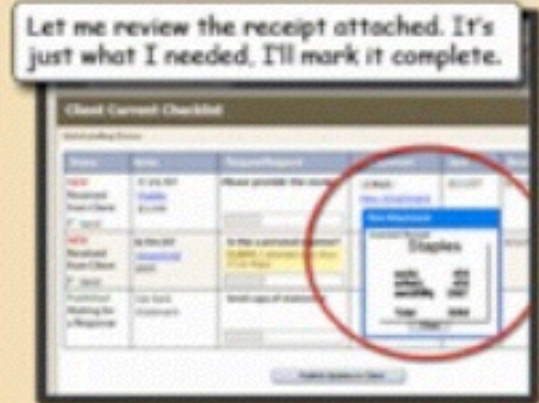
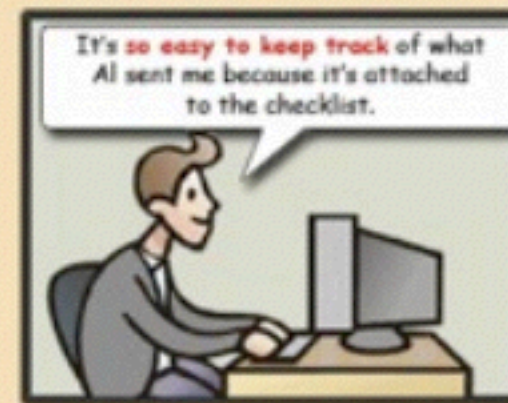
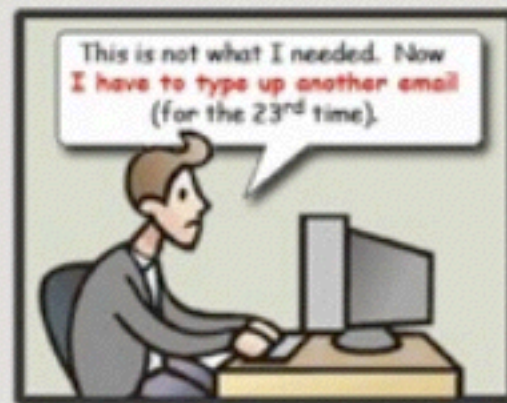


Storyboards

Sample

Problem

Solution



Benefit

Landing Pages

High Performing

User Centric

Clear & Concise

Conversion Focused

Shareable

Measurable

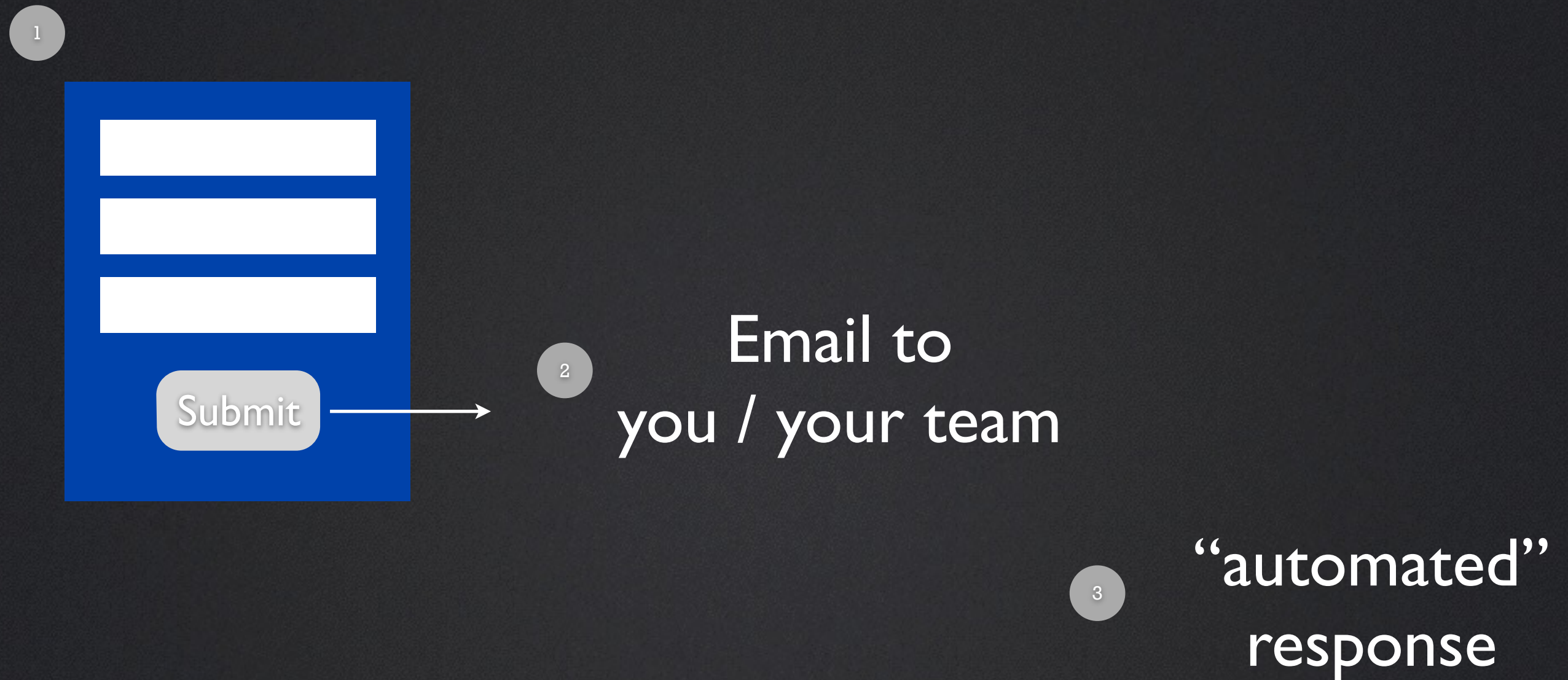
Consistent

Demo Video



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

Wizard of Oz



Group Application

Storyboards

Landing Pages

Demo Videos

Wizard of Oz

A photograph of a broken incandescent light bulb lying on a dark wooden floor. The bulb is shattered, with many sharp, white glass fragments scattered around it. A stream of water is splashing out from the broken opening of the bulb, creating a dynamic scene with droplets in the air. The background is a blurred wooden surface.

Five
Misunderstandings
about MAPS

#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



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

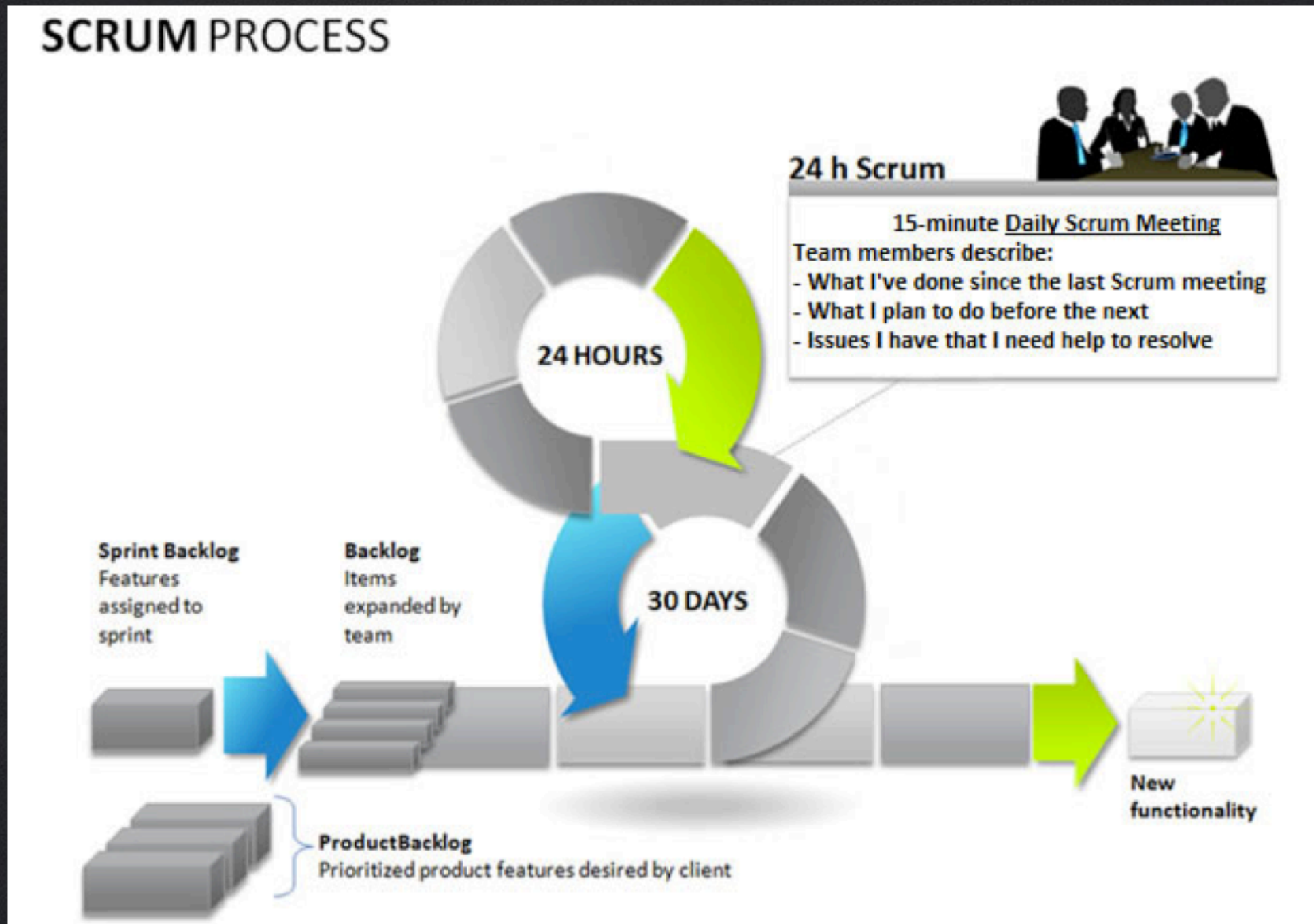
Why do we focus on *Scrum*?



https://www.youtube.com/watch?v=XU0IIIRItyFM&src_vid=Q5k7a9YEoUI

Key Themes from Scrum

The process of *Scrum?*



Tips / Tricks for *Scrum?*

Important for everyone to buy in and get familiar with vocabulary

Tools for implementing scrum (not necessary):

Scrumworks - <http://www.open.collab.net/products/scrumworks/>

Version One - <http://www.versionone.com/>

Rally Software - <http://www.rallydev.com/index.php>

Google Doc Template - <https://docs.google.com/previewtemplate?id=0AoBzAQ22ynH5dEpRRkNBVGRCVUIHMmk2enBMYUZZSGc&mode=public>

10 More Free Scrum Tools -

<http://knowscrum.com/10-best-free-scrum-tools/>

Product Backlog

Prioritized list or queue of requirements

Rough Estimates of level of effort to complete (not all estimates need to be equally thorough / higher priority can be more thorough)

Ultimately Product Owner sets the priority

Any one (customer, employee, board member, advisor) can add to product backlog

Should be shared with the full-team

Product Backlog

Product Wish List v1 - C iRSS - 5-2-07.xls

NewOpenSavePrintImportCopyPasteFormatUndoRedoAutoSumSort A-ZSort Z-AGallery ToolboxZoomHelp

SheetsChartsSmartArt GraphicsWordArt

Product Wish List

ID	Category	Total - Sprint 5	Effort Estimates	Planner	Difficult or Uncertain Issues	Abstract Requirement	Summary of Spec	Notes / Test
73	Tech	1.25	0.5d - Identify common patterns (Brian and Evan) 0.75d - Factor out patterns	Evan		Improve front-end server architecture		Factor out common resource patterns
74	Tech	2	1d research JUnit 1d automated testing features 1d automated test infrastructure development	Brian		Improve Javascript unit testing		
96	Tech	3	0.5d set up persistent Quartz environment 1.0d configure Quartz 0.5d other odds and ends 1.0d test and rework	Dean		Organize the software for automatic operation on multiple nodes: e.g. automatic input feed processing, personalized feed processing. Integration testing and debugging of the software running as a whole.		
85	Tech	2	1d - Rails Learning .5d - Testing .5d - First Migration	Brian		Database Migration Infrastructure		
107	Tech	1	1d - investigation			Explore Tomcat redeployment issues		
81	IC	5	0.5d - Atom generation library research 0.5d - Programmatic URL creation research 1d - Implementation of Atom generation 3d - manual testing	Evan	- Choice of XML-generation architecture. - Architecture for generating embedded URLs (or decision to hard-code for now).	The personalized feed URL should deliver feed content when pulled.	Generate an atom feed on each request containing all PersonalizedFeedItem's that were created in the last 72 hours. (This line item includes basic styling.)	Sample of manual test
12	II	5.5	.5d test image maps in FRs and browsers 2d badge generator API and algorithm design. 2.5d development .5d manual test	Brian	- logic and code to lay out and render the badge - Test to make sure image map alt text works as planned in multiple feed-readers.	When an item is delivered in a personalized feed, it includes a visual representation of how relevant the system believes it is and possibly why.	Generate a badge (per Th's spec) that the feed item references as an image (e.g. IMG tag) with image-map rollover (alt) text for each meme.	Does it make sense for this just to be a controller in our current spring MVC servlet? Or should we think about making this more easily distributable across multiple machines separate from the other spring MVC controllers?
75	II	4	2d design & HTML layout 1.5d development 0.5d manual test	Brian	- Test to make sure image map alt text works as planned in multiple browsers.	The user is able to provide "thorough" feedback on the preferences that drove the selection of a particular content item.	When the user clicks on the badge or "why was I shown this?" link in the feed item, they are taken to a web page with a badge and a representation of the item. On this web page, they can hover over the memes in the badge to see descriptions or click to get the "property edit" dialog.	Sample of manual test
36	R	8	1d remaining tweaks from last round with Jamie 2d first pass at improving scalability 1d first pass at testing scalability 1d finish scalability	Dean		Memes can leverage topics		a subject such as "hurricane Katrina" or "the surge in Iraq" that lasts from a few days to a few months, and that is too ephemeral to reliably get an appealing human-readable name

Product Wish ListUpcoming MonthsBurn Down GraphBurn Down+

Normal ViewReadySum=0SCRLCAPSNUM

Product Backlog

Product Wish List														Tuesday, May 01, 2007			
ID	Category	Total - Sprint 1	Est - Sprint 1	Total - Sprint 2	Est - Sprint 2	Total - Sprint 3	Est - Sprint 3	Total - Sprint 4	Est - Sprint 4	Total - Sprint 5	Est - Sprint 5	Effort Estimates	Planner	Difficult or Uncertain Issues	Abstract Requirements	Priority of Spec	Notes / Test
34	Tech	-	-	7	0.5	4.5	0	0	0	0	0	0.5d - One calendar day (Sat?) intensive sprints up	n/a		Build a framework for persistence	Alternate through JPA	Test the product on each sprint with a test suite
35	Tech	-	-	14	7	7	4	4.5	0	0	0	0	n/a		Basic Feed Processing		Test on each sprint with a test suite
36	Tech	5	0	0	5	2	4	0	0	0	0	0	n/a		Setup front end user interface architecture	n/a	Test on each sprint with a test suite
71						5	0	5	0	0	0	0	n/a		Find front end Ninja / Prince	n/a	Test on each sprint with a test suite
37	Tech	6	3	3	0	0	0	0	0	0	0	0	n/a		Front to back end communication protocol	n/a	Test on each sprint with a test suite
4	Tech	15	8	8	0	0	0	0	0	0	0	0	n/a		The system should effectively use preferences to choose relevant content for the user (General infrastructure for memos)	A user's memos put content	Run automated tests
38		14	12	12	12	12	12	12	12	12	12	0	n/a		Developing a single user interface for the system	A user's memos put content	Run automated tests
39	Tech	-	-	4	1	1	0	0	0	0	0	0	n/a		The development environment should encourage continuous integration & testing - with efficient & effective build management	Warning is installed & deployed	Test the environment's interface to run the continuous builds in our development environment
40		20	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	0	n/a		Develop a single user interface for the system	A user's memos put content	Run automated tests
30	R	-	-	3	2	2	0	0	0	0	0	0	n/a		Memo (last item for story)		Choose a single item from each "story" in each time interval (e.g. day), based on which item is ranked highest by other memos
41		3	3	3	3	3	3	3	3	3	3	0	n/a		Develop a single user interface for the system	A user's memos put content	Run automated tests
10	C	1.5	1.5	1.5	0	0	0	0	0	0	0	0			For the first release, it is ok if the user can only create one "second tier" feed per account	A user can only create one "highlights" feed originally, but knows that "coming soon" he'll be able to have feeds based on topics that are interesting to him	Sample of manual test
42		1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	0			Develop a single user interface for the system	A user's memos put content	Run automated tests
43	R	-	-	2	2	2	0	0	0	0	0	0			Memo: topic		Recognizes a particular "topic" (defined below)
11	R	15	18	18	13	13	13	13	13	13	13	0			The content adapts based on a user's interactions with items in the feed. (Learning Infrastructure)	A user clicks on stories & thumbs up / down stories to change the content they are getting	Sample of manual test
72	Tech											1.25			Improve front-end server architecture		Factor out common resource patterns
73															Improve Javascript unit testing		

													Sheets		Charts		SmartArt Graphics		Words	
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q			
1	Tuesday, May 01, 2007																			
2	Product Wish List																			
3	ID	Category	1001 - Sprint 1	1002 - Sprint 1	1003 - Sprint 2	1004 - Sprint 2	1005 - Sprint 3	1006 - Sprint 3	1007 - Sprint 4	1008 - Sprint 4	1009 - Sprint 5	Effort Estimates	Planner	Difficult or Uncertain Issues	Assigned Requirement	Availability of Spec	Notes / Test			
4		Tech	10.0	10.0	10.0	10.0	-	-	-	-	-	10.0 - One calendar day (5d) 1d - intensive spin up	n/a		Build a framework for persistence	Generate through JPA	None. This project will have unit tests & tests on the database. (Unit tests on the database will be done by the user & the user will be responsible for the database tests.)			
5	50	Tech	-	-	7	0.5	4.5	0	0	0	0		n/a		Build a framework for persistence	Generate through JPA	None. This project will have unit tests & tests on the database. (Unit tests on the database will be done by the user & the user will be responsible for the database tests.)			
6	50	Tech	-	-	14	7	7	4	4.5	0	0		n/a		Basic Feed Processing	Generate through JPA	None. This project will have unit tests & tests on the database. (Unit tests on the database will be done by the user & the user will be responsible for the database tests.)			
7	50	Tech	5	0	0	5	2	2	4	0	0		n/a		Setup front end user interface architecture	n/a	Show source tree			
8	71						5	0	5	0	0		n/a		Find front end logic / flow					
9	71												n/a							
10	71	Tech											n/a							
11	5	Tech	6	3	3	0	0	0	0	0	0		n/a		Front to back end communication protocol	n/a	Non automated tests			
12	4	Tech	15	8	8	0	0	0	0	0	0		n/a		The system should effectively use preferences to choose relevant content for the user (General infrastructure for memos)	A user's memos pull content	Non automated tests			
13													n/a		The user will be able to "bookmark" memos on the system and view the selected item content. This may be done by the user.	A user clicks on a link in the feed to view memos. The user will be able to view the selected item content. This may be done by the user.	Sample of manual test			
14													n/a		10 - design 20 - user testing 10d - development 20 - manual test	A user clicks on a link in the feed to view memos. The user will be able to view the selected item content. This may be done by the user.	Sample of manual test			
15	30	Tech	-	-	4	1	1	0	0	0	0	1d - training	n/a		The development environment should encourage continuous integration & testing - with efficient & effective build management.	Flexibility is installed & deployed.	Show the environment's interface to run the continuous builds in our development environment.			
16													n/a		The user will be able to view the selected item content. This may be done by the user.	A user clicks on a link in the feed to view memos. The user will be able to view the selected item content. This may be done by the user.	Sample of manual test			
17													n/a		The user will be able to view the selected item content. This may be done by the user.	A user clicks on a link in the feed to view memos. The user will be able to view the selected item content. This may be done by the user.	Sample of manual test			
18	38	R	-	-	3	2	2	0	0	0	0	1d - development 1d - manual test	n/a		Memo: Best item for story		Chooses a single item from each "story" in each time interval (e.g. day), based on which item is ranked highest by other memos.			
19													n/a		The user will be able to view the selected item content. This may be done by the user.	A user clicks on a link in the feed to view memos. The user will be able to view the selected item content. This may be done by the user.	Sample of manual test			
20													n/a		The user will be able to view the selected item content. This may be done by the user.	A user clicks on a link in the feed to view memos. The user will be able to view the selected item content. This may be done by the user.	Sample of manual test			
21	43	C	1.5	1.5	1.5	0	0	0	0	0	0				For the first release, it is ok if the user can only create one "second tier" feed per account.	A user can only create one "highlight" feed originally, but knows that "coming soon" he'll be able to have feeds based on topics that are interesting to him.	Sample of manual test			
22													n/a		The user will be able to view the selected item content. This may be done by the user.	A user clicks on a link in the feed to view memos. The user will be able to view the selected item content. This may be done by the user.	Sample of manual test			
23													n/a		The user will be able to view the selected item content. This may be done by the user.	A user clicks on a link in the feed to view memos. The user will be able to view the selected item content. This may be done by the user.	Sample of manual test			
24	45	R	-	-	2	2	2	0	0	0	0	No work for prop editing?	Brian		Memo: Topic		Recognizes a particular "topic" (defined below).			
25	11	R	15	10	10	13	13	13	13	3	0		Dean		The content adapts based on a user's interactions with items in the feed. (Learning Infrastructure)	A user clicks on stories & thumbs up / down stories to change the content they are getting.	Sample of manual test			
26													n/a		The user will be able to view the selected item content. This may be done by the user.	A user clicks on a link in the feed to view memos. The user will be able to view the selected item content. This may be done by the user.	Sample of manual test			
27	73	Tech										1.25	6.5d - identify common patterns (Brian and Evan) 6.75d - Factor out patterns	Evan	Improve front-end server architecture		Factor out common resource patterns			
28	74	Tech										2	1d research JSUnit automated testing features 1d automated test infrastructure development	Brian	Improve Javascript unit testing					
29	96	Tech										3	6.5d set up persistent Quartz environment 1.0d configure Quartz 6.5d other odds and ends 1.0d test and rework	Dean	Organize the software for automatic operation on multiple nodes: e.g. automatic input feed processing, personalized feed processing, integration testing and debugging of the software running as a whole.					
30	60	Tech							2	2	2		1d - Rails Learning .5d - Testing .5d - First Migration	Brian	Database Migration Infrastructure					
31	100	Tech										1	1d - investigation		Explore format redeployment issues					
32	61												6.5d - Atom generation library research 6.5d - Programmatic URL		The personalized feed URL should deliver feed content when pulled.	Generate an atom feed on each request containing all PersonalizedFeedItem's that	Sample of manual test			

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

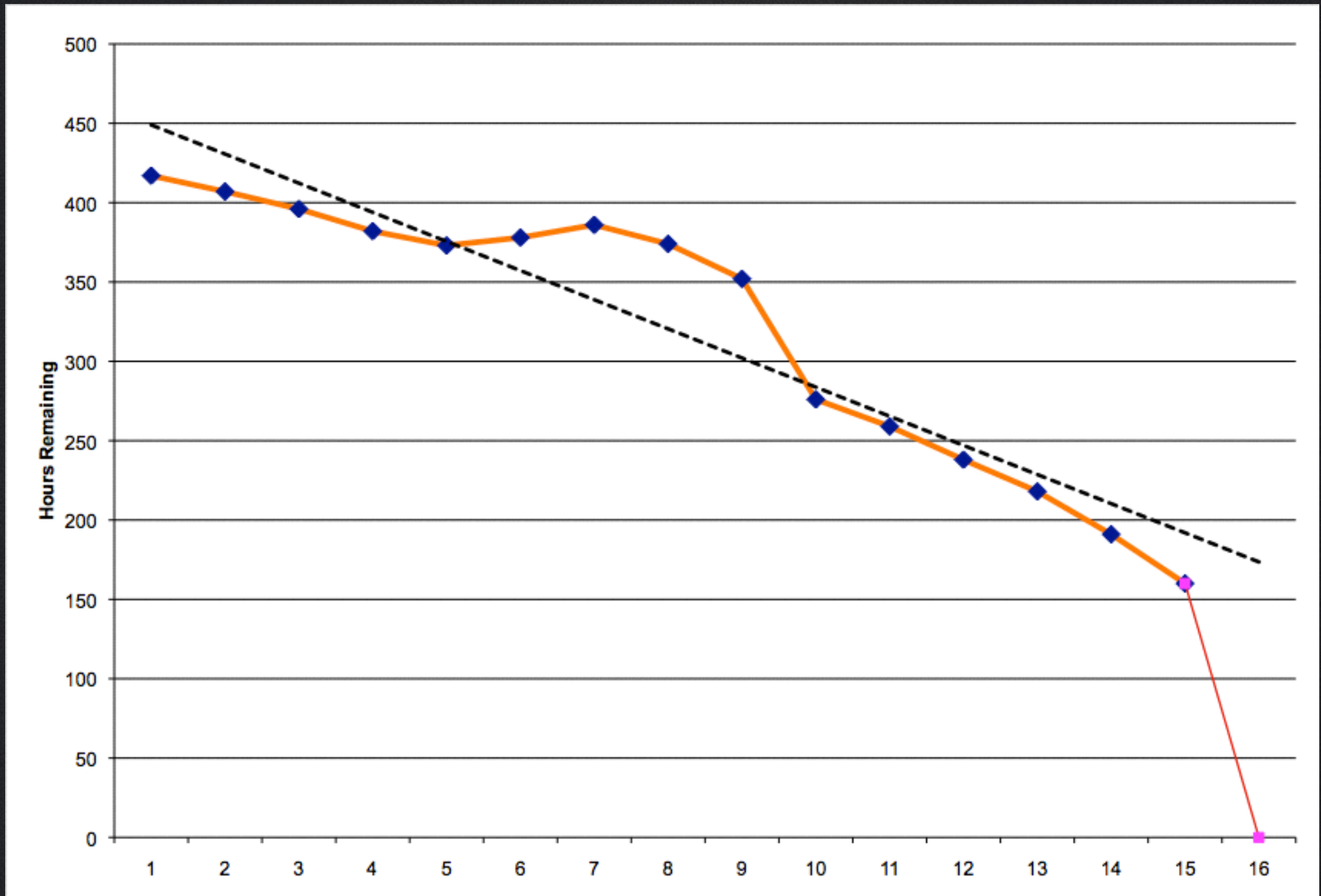
Velocity / Burn Down

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

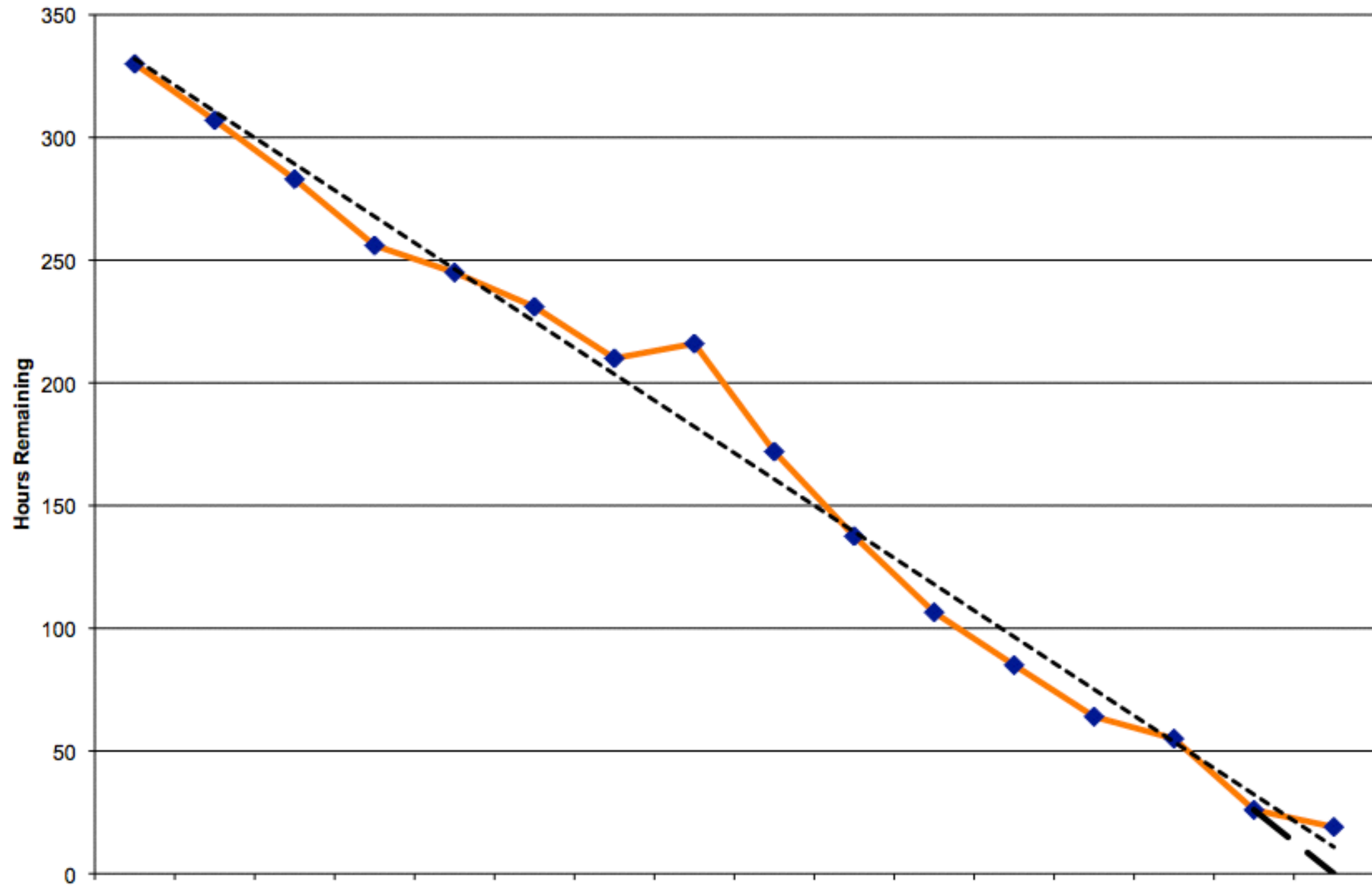
Overtime velocity becomes very helpful for planning purposes

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

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

@SeanAmmirati

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