

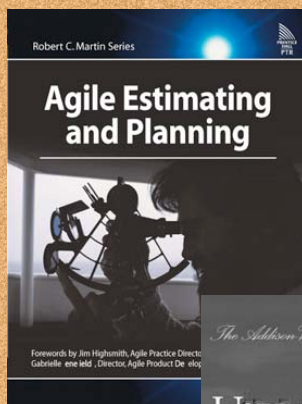
# Prioritizing Your Product Backlog

Mike Cohn  
August 6, 2008



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## Mike Cohn - background



- Agile coach and trainer**
- Founding member and director of Agile Alliance and Scrum Alliance
  - Founder of Mountain Goat Software
  - Ran my first Scrum project back in 1995
  - Typical programmer to manager etc. progression



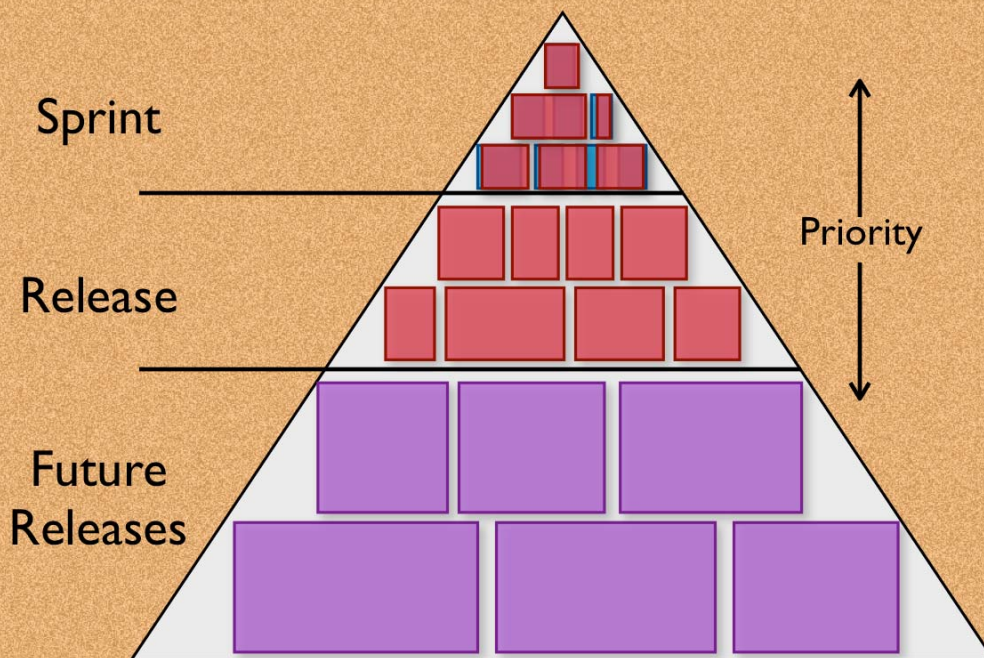
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The right level  
for prioritization

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## The product backlog iceberg



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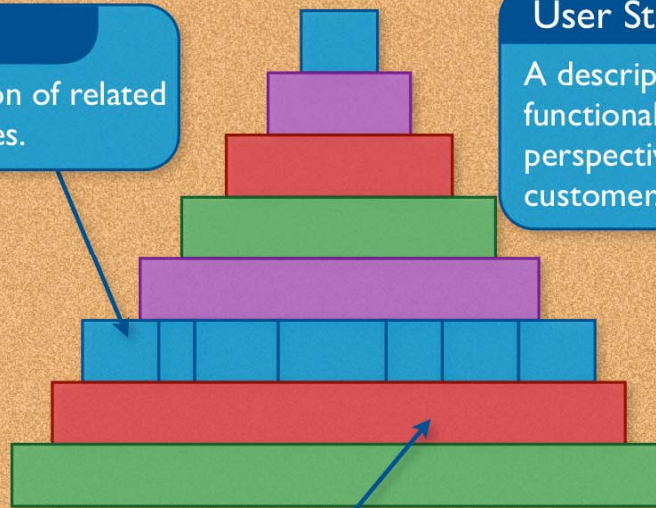
# Stories, themes and epics

## Theme

A collection of related user stories.

## User Story

A description of desired functionality told from the perspective of the user or customer.



## Epic

A large user story.



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# An example

As a VP Marketing, I want to review the performance of historical promotional campaigns so that I can identify and repeat profitable ones.

Clearly an epic

As a VP Marketing, I want to select the timeframe to use when reviewing the performance of past promotional campaigns, so that I can identify and repeat profitable ones.

Epics??

As a VP Marketing, I can select which type of campaigns (direct mail, TV, email, radio, etc.) to include when reviewing the performance of historical promotional campaigns.



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# An example

As a VP Marketing, I want to see information on **direct mailings** when reviewing historical campaigns.

As a VP Marketing, I want to see information on **television** advertising when reviewing historical campaigns.

As a VP Marketing, I want to see information on **email** advertising when reviewing historical campaigns.



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# Prioritize at the theme level

- Why?
- Often individual stories cannot be prioritized against each other
  - What's more important in a word processor?
    - The A key or the E key?
    - Tables or undo?
  - What's more important on a car?
    - The left front wheel or the right front wheel?
    - Increased leg room or a larger engine?



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# Techniques for prioritizing

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## Choosing your approach

	Expert Opinion	User Interview
Kano analysis	✓	✓
Theme screening	✓	
Theme scoring	✓	
Relative weighting	✓	

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# Kano analysis

## Three types of features

Exciters /  
Delighters



Features a user doesn't know  
she wants, until she sees it

Linear



The more of it, the better

Mandatory /  
Baseline



Must be present in order for  
users to be satisfied



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# Surveying users

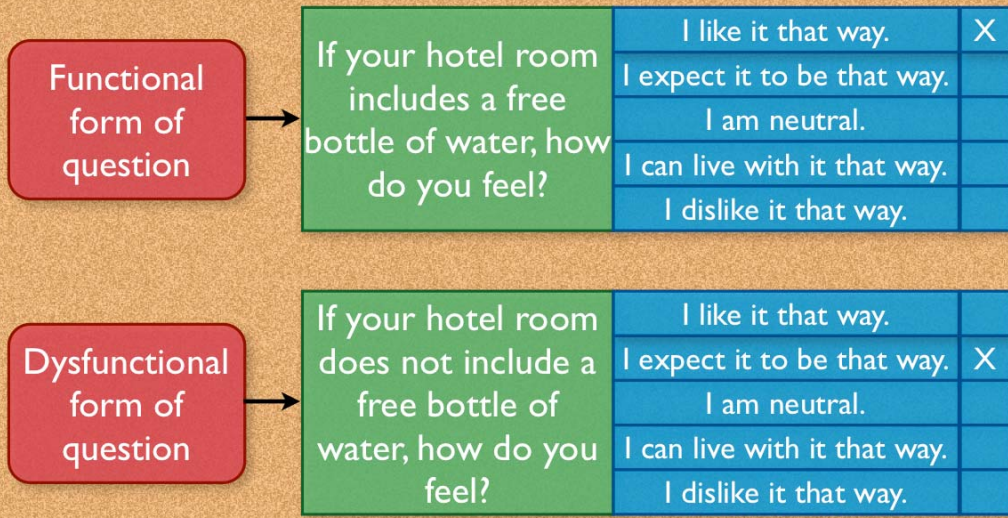
- To assess whether a feature is baseline, linear, or exciting we can:
  - Sometimes guess
  - Or survey a small set of users (20-30)
- We ask two questions
  - A functional question
    - How do you feel if a feature is present?
  - And a dysfunctional question
    - How do you feel if that feature is absent?



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# Functional and dysfunctional forms



# Categorizing an answer pair

		Dysfunctional Question				
		Like	Expect	Neutral	Live with	Dislike
Functional Question	Like	Q	E	E	E	L
	Expect	R	I	I	I	M
	Neutral	R	I	I	I	M
	Live with	R	I	I	I	M
	Dislike	R	R	R	R	Q

M Mandatory  
 L Linear  
 E Exciter  
 Q Questionable  
 R Reverse  
 I Indifferent



# Aggregating results

Theme	Exciter	Linear	Mandatory	Indifferent	Reverse	Questionable
Apply formatting themes	3	11	31	1	3	2
Automate report execution	4	22	20	4	1	0
Export reports to PowerPoint	21	9	14	5	1	1



## What to include

- All of the baseline features
  - By definition, these must be present
- Some amount of linear features
- But leaving room for at least a few exciters





# Theme screening

- Identify 5-9 (approximately) selection criteria for what is important in the next release
- Select a baseline theme
  - Likely to be included in the next release
  - Understood by most team members
- Assess each candidate theme relative to the baseline theme



## Theme screening: an example

Selection Criteria	Themes						
	Theme A	Theme B	Theme C	Baseline Theme	Theme E	Theme F	Theme G
Importance to existing customers	+	+	-	0	-	+	0
Competitiveness with ABC Corp.	+	-	0	0	0	0	0
Starts us integrating product lines	+	0	0	0	+	-	+
Generates revenue in Q2	0	0	0	0	+	0	+
Net score	3	0	-1	0	1	0	2
Rank	1	4	5	4	3	4	2
Continue?	Y	N	N	Y	Y	N	Y

+ = better than  
 0 = same as  
 - = worse than



# Theme scoring

- Like theme screening but selection criteria are weighted
- Need to select a baseline theme for each criteria
- Avoids compression of a category
- Each theme is assessed against the baseline for each selection criteria

Much worse than reference	1
Worse than reference	2
Same as reference	3
Better than reference	4
Much better than reference	5



# Theme scoring: an example

Selection Criteria	Weight	Theme A		Theme B		Theme C	
		Rating	Weighted Score	Rating	Weighted Score	Rating	Weighted Score
Importance to existing cust.	.25	3	0.75	1	0.25	4	1.00
Competitive. with ABC	.10	2	0.20	3	0.30	3	0.30
Starts us integrating...	.15	3	0.45	4	0.60	4	0.60
Generates Q2 revenue	.50	5	2.50	2	1.00	3	1.50
Net score		3.90		2.15		3.40	
Rank		1		3		2	
Continue?		Yes		No		Yes	





## Prioritizing MyCookSpace.com

- Assume we have a minimally functional site up with 4,000 registered cooks
  - We want 400,000 cooks
- Identify 3-4 themes that will help get more cooks to register on the site.
- Identify some selection criteria
  - What's important to the company in making this decision?
- Complete a theme screening or theme scoring worksheet



Intentionally blank



# Theme Screening Worksheet



		Themes						
Selection Criteria								
	Net score							
	Rank							
	Continue?							

+ = Better than

0 = Same as

- = Worse than



# Relative weighting

- Assess the impact of having a story/theme from 1-9
- Assess impact of NOT having it from 1-9
- Calculate the value of each story or theme relative to the entire product backlog
  - This gives you the relative value of that story or theme
- Estimate the cost of each story theme
- Calculate the cost of each story or theme relative to the entire product backlog
  - This gives the relative cost of that story or theme
- Priority is given by (Relative Value ÷ Relative Cost)



## Relative weighting: an example

		Relative Benefit	Relative Penalty	Total Value	Value Percent	Estimate	Cost Percent	Priority
Themes	More investment choices	8	6	14	40	64	44	91
	Portfolio rebalancing	9	2	11	31	40	27	115
	Comply with new law	1	9	10	29	42	29	100
Total				35	100	146	100	

$$\text{Total Value} = \text{Relative Benefit} + \text{Relative Penalty}$$

$$\text{Value Percent} = \text{Total Value} / \sum (\text{Total Value})$$

$$\text{Cost Percent} = \text{Estimate} / \sum (\text{Estimate})$$



# An example with weights

		Weight →						
		2	1					
		Relative Benefit	Relative Penalty	Total Value	Value Percent	Estimate	Cost Percent	Priority
Themes	More investment choices	8	6	22	41	64	44	93
	Portfolio rebalancing	9	2	20	38	40	27	141
	Comply with new law	1	9	11	21	42	29	72
Total				53	100	146	100	



## Relative weighting MyCookSpace.com

- Using the relative weighting worksheet provided, prioritize the themes you've previously identified for MyCookSpace.com.



# Relative Weighting Worksheet



		Weight:						
Themes		Relative Benefit	Relative Penalty	Total Value	Value Percent	Estimate	Cost Percent	Priority
		Total:				100		100

Total Value = Relative Benefit + Relative Penalty (× weights if used)  
 Value Percent = Total Value ÷ ∑(Total Value)  
 Cost Percent = Estimate ÷ ∑Estimate  
 Priority = Value Percent / Cost Percent (higher = higher priority)



# Comparison matrix

	Person Weeks	Cost	3-Year Return	NPV	IRR	D. Payback (Quarters)
Theme A	25	\$150	\$1,085	\$448	133%	2
Theme B	32	192	\$2,109	\$940	172%	4
Theme C	90	\$540	\$2,537	\$883	89%	2
Theme D	48	\$288	\$1,360	\$443	76%	4
Theme E	55	\$330	\$900	\$191	48%	2
Theme F	79	\$474	\$1,365	\$331	56%	4
Theme G	90	\$540	\$5,964	\$2,519	139%	5
Theme H	50	\$300	\$2,415	\$1,023	146%	2
Theme I	15	90	\$1,600	\$747	221%	1
Theme J	30	\$180	\$640	\$182	65%	2
Theme K	75	\$450	\$516	(\$104)	5%	NA
Theme L	40	\$240	\$171	(\$110)	(12%)	NA
Theme M	80	\$480	\$1,025	\$142	36%	3
Theme N	18	\$108	\$185	\$7	24%	2
Theme O	6	36	\$155	\$53	90%	1
Theme P	12	\$72	\$1,505	\$748	355%	1



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# Upcoming public classes

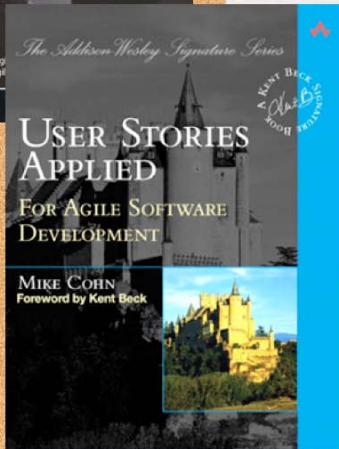
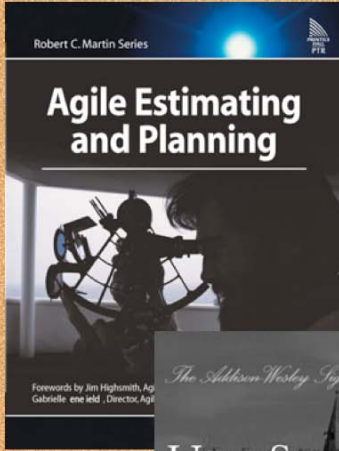
Date	What	Where
Oct 13	Effective User Stories for Agile Requirements	San Jose
Oct 14–15	Certified ScrumMaster	San Jose
Oct 16	Agile Estimating and Planning	San Jose
Other classes in London and Oslo.		

Register at  
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