





Why?

- Features that are too small cannot be effectively 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?

































Relative Weighting Worksheet

		Weight:							
	MOUNTAIN GOAT S O F T W A R E		Relative Benefit	Relative Penalty	Total Value	Value Percent	Estimate	Cost Percent	Priority
(0									
⁻ hemes									
F									
		Total:				100		100	

Total Value = Relative Benefit + Relative Penalty (× weights if used) Value Percent = Total Value $\div \Sigma$ (Total Value) Cost Percent = Estimate $\div \Sigma$ Estimate Priority = Value Percent / Cost Percent (higher = higher priority)



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



Т	heme scr	eening	a	n e	ex	an	np	le		
					Т	hem	es			
			ieme A	ieme B	ieme C	seline Theme	ieme E	ieme F	ieme G	
	Selection Crite	ria	Ę	Ę	Ę	Ba	Ę	Ę	Ę	
din din Salat Salat	Importance to existi	ng customers	+	+		0	_	+	0	
	Competitiveness wit	h ABC Corp.	+	-	0	0	0	0	0	
	Starts us integrating	product lines	+	0	0	0	+	-	+	
	Generates revenue i	n Q2	0	0	0	0	+	0	+	
	+ = better than	Net score	3	0	-1	0	1	0	2	
	0 = same as	Rank	I	4	5	4	3	4	2	
-	Worse than	Continue?	Y	N	Ν	Y	Y	N	Y	
Re)					© Mo	ountain	Goat S	oftwar	e, LLC



	Theme	SCO	rin	g:	an	e>	amp	ole	2	
			J	Th	ieme A	Th	ieme B	Th	eme C	No.
	Selection Criteria	1	Weigh	Rating	Weighted Score	Rating	Weighted Score	Rating	Weighted Score	Real and
	Importance to exis	sting cust.	.25	3	0.75	I	0.25	4	1.00	
	Competitive. with	ABC	.10	2	0.20	3	0.30	3	0.30	
	Starts us integratir	ıg	.15	3	0.45	4	0.60	4	0.60	
	Generates Q2 rev	enue	.50	5	2.50	2	1.00	3	1.50	
		Net	score		3.90		2.15		3.40	
			Rank		1		3		2	
		Cont	inue?		Yes		No		Yes	and the second s
Ś							© Mountain	Goat S	oftware, LLC	

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Theme Screening Worksheet

				Themes		
MCs						
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ection Crite						
Sele						
		Net score				
		Rank				
		Continue?				

+ = Better than 0 = Same as - = Worse than

Weighted Score Rating Rank Net Score Continue? 1dbi9W MOUNTAIN GOAT s o f t w a r e Selection Criteria

Theme Scoring Worksheet



Three factors to consider

- All financial decisions involve three elements
 - How much?
 - How long?
 - At what interest rate?
- If you're buying a house:
 - It's a \$220,000 loan
 - For 30 years
 - At 7% per year



	Proje	ct A	Project B		
Year	Investment	Return	Investment	Return	
0	\$1,000		\$1,000		
1		\$200		\$3,000	
2		\$300		\$500	
3		\$500		\$300	
4		\$3,000		\$200	
5		\$0		\$0	











N •	PV ex	camp	le Il discoun	t rate (3% / qu	Jarter)	
	Quarter	Cash flow	(+i) ^{-t}	Discounted Cash Flow	Running Total	
	0	-200	1.000	-200	-200	
	ļ	-600	0.971	-583	-783	
	2	100	0.943	94	-689	
	3	300	0.915	275	-414	
	4	500	0.888	444	30	
R				© Moun	tain Goat Software, Ll	LC

Discount rate sensitivity NPV is highly sensitive to the chosen discount rate • Discounted Cash Discounted Cash Cash flow Quarter Flow (3%) Flow (6%) -200 -200 -200 0 -600 -583 -783 1 2 100 94 -689 3 300 275 -414 4 444 500 30 Total 100 30 -29 Do the project under But not under these these conditions © Mountain Goat Software, LLC

с •	Omparing Highest NPV b dollars to the d	g NPVs rings the m company	S ost present-value
	Theme	NPV	
	Scalability	\$2,100	
	Gift registry	\$1,253	
	Ad hoc reporting	\$78 [,]	Comparing NPVs can be
	Pay by invoice	\$38	"Pay by invoice" requires a
*			\$5 investment • "Scalability" requires \$50,000?

Technique #2 Internal Rate of Return (IRR) © Mountain Goat Software, LLC





Quarter	Cash flow	Discounted Cash Flow (3%)	Discounted Cash Flow (6%)
0	-200	-200	-200
I	-600	-583	-783
2	100	94	-689
3	300	275	-414
4	500	444	30
Total	100	30	-29
whether • We do	or not we an't make \$30;	do the project we don't lose \$29;	we break even © Mountain Goat Softwar
• We do	or not we hit make \$30;	do the project we don't lose \$29;	we break even © Mountain Goat Softwar
• We do • We do	or not we n't make \$30;	do the project we don't lose \$29; ulate RO	we break even © Mountain Goat Softwar
whether • We do OW t Use E	or not we n't make \$30; o calcu ccel's irr fu	do the project we don't lose \$29; ulate RO	we break even © Mountain Goat Softwar

An investment made on the first day of the project

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Cash flows for

remainder of

project (4 quarters)







Advantages and disadvantages

- Advantages
 - Calculation is very easy
 - Measures the duration of financial risk
 - Longer payback period = greater risk
- Disadvantages
 - Doesn't consider the time-value of money
 - Doesn't measure profitability at all

D •	iscour Discount when the	future c	ash flov	ack per vs and deter aid back	rmine	
	Quarter	Cash Flow	(+i) ^{-t} i=3%	Discounted Cash Flow	Running Total	
	0	-200	1.000	-200	-200	
	I	-200	0.971	-194	-394	
	2	100	0.943	94	-300	
	3	300	0.915	275	-25	
	4	500	0.888	444	419	
	Discount	ed payback p	oeriod = 4 q	uarters © Mount	tain Goat Software, Ll	.c

Financial analysis recap

- Net Present Value (NPV)
 - Sum of discounted future cash flows
 - Expresses return as an amount of money
- Return on Investment (ROI) / Internal Rate of Return
 - The interest rate at which NPV = 0
 - That is, at which you'd be indifferent to the investment
 - Expresses return as a percentage
- Discounted payback period
 - Amount of time before discounted returns equal the investment
 - Expresses return as an amount of time

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

Upcoming public classes

Date	What	Where
Feb 1–2 Feb 3–4	Certified ScrumMaster Certified Scrum Product Owner	Dallas
March I March 2–3 March 4	User Stories for Agile Requirements Certified ScrumMaster Agile Estimating & Planning	Boulder
April 12 April 13–14 April 15	User Stories for Agile Requirements Certified ScrumMaster Succeeding with Scrum (new!)	San Diego
	See mountaingoatsoftware.com for details	ntain Goat Software, LLC

