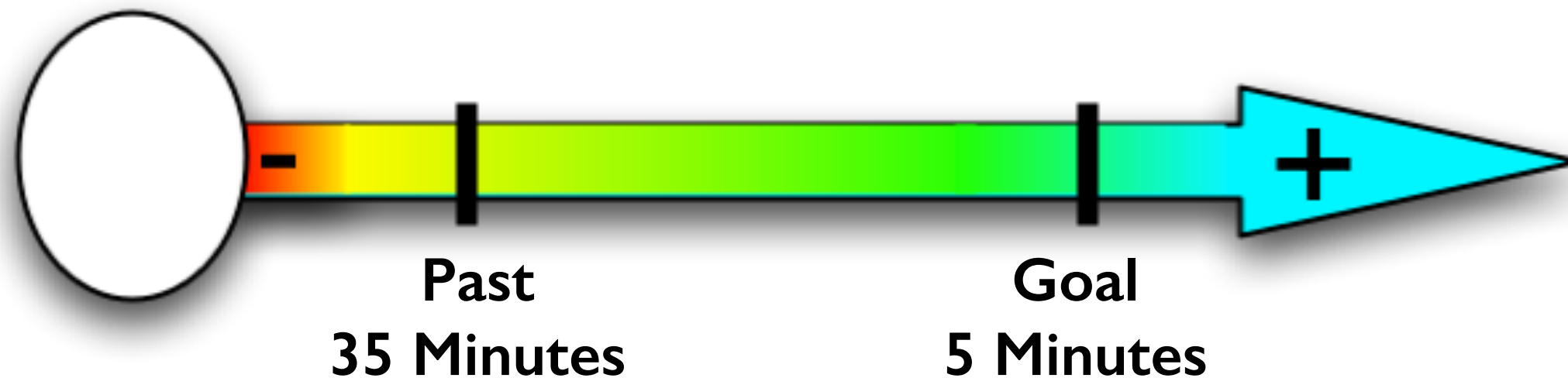




Value Decision Tables

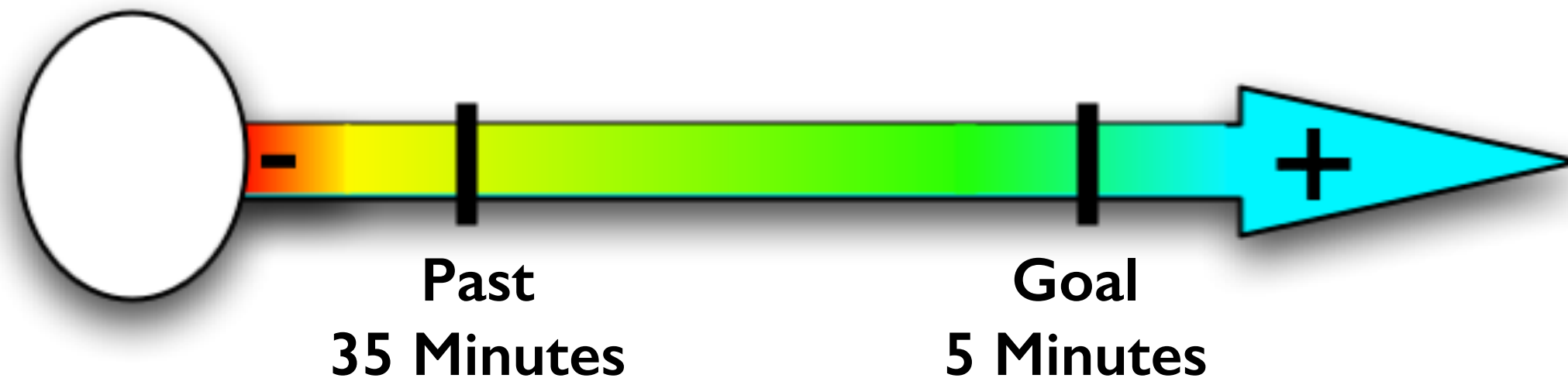
Userfriendliness.Learn.Contacts



Scale: average time in minutes,
to learn how to
program contact names and telephone numbers
into the memory of the phone.

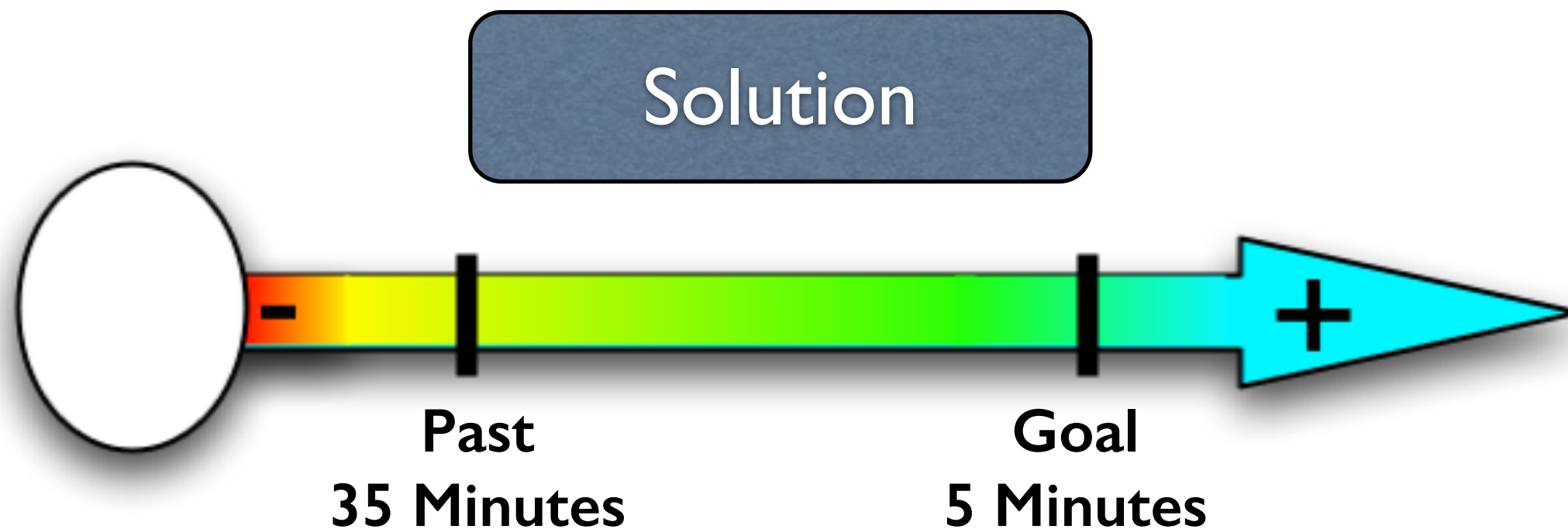
Userfriendliness.Learn.Contacts

-30 min.



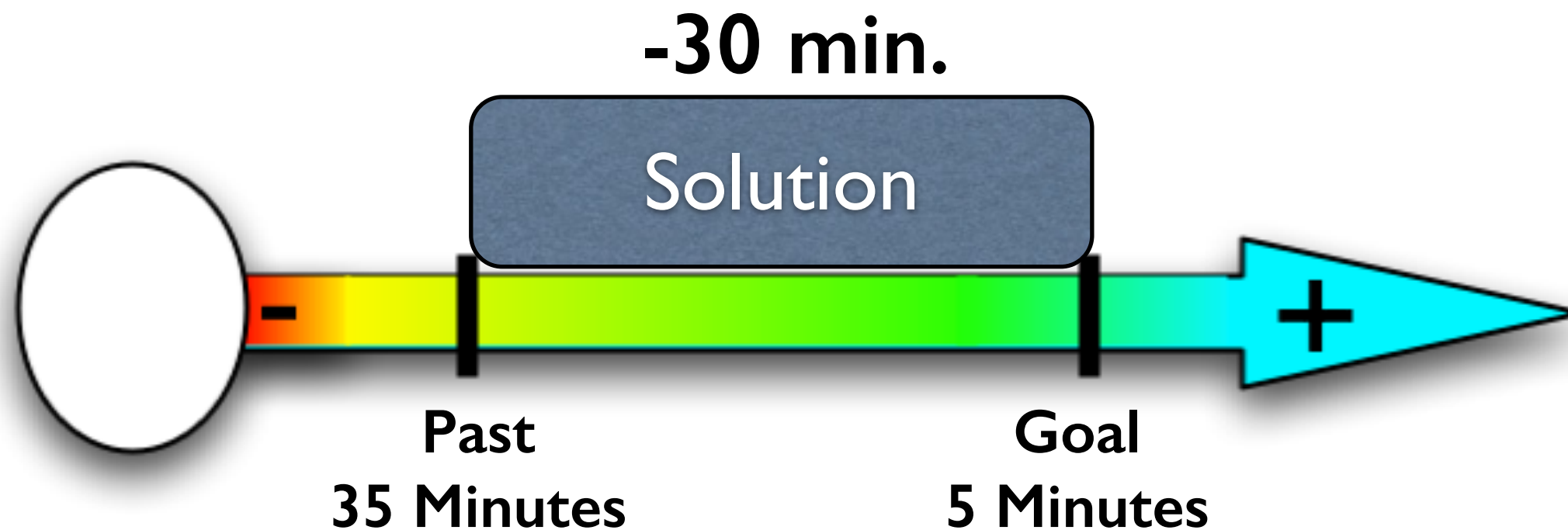
Scale: average time in minutes,
to learn how to
program contact names and telephone numbers
into the memory of the phone.

Userfriendliness.Learn.Contacts



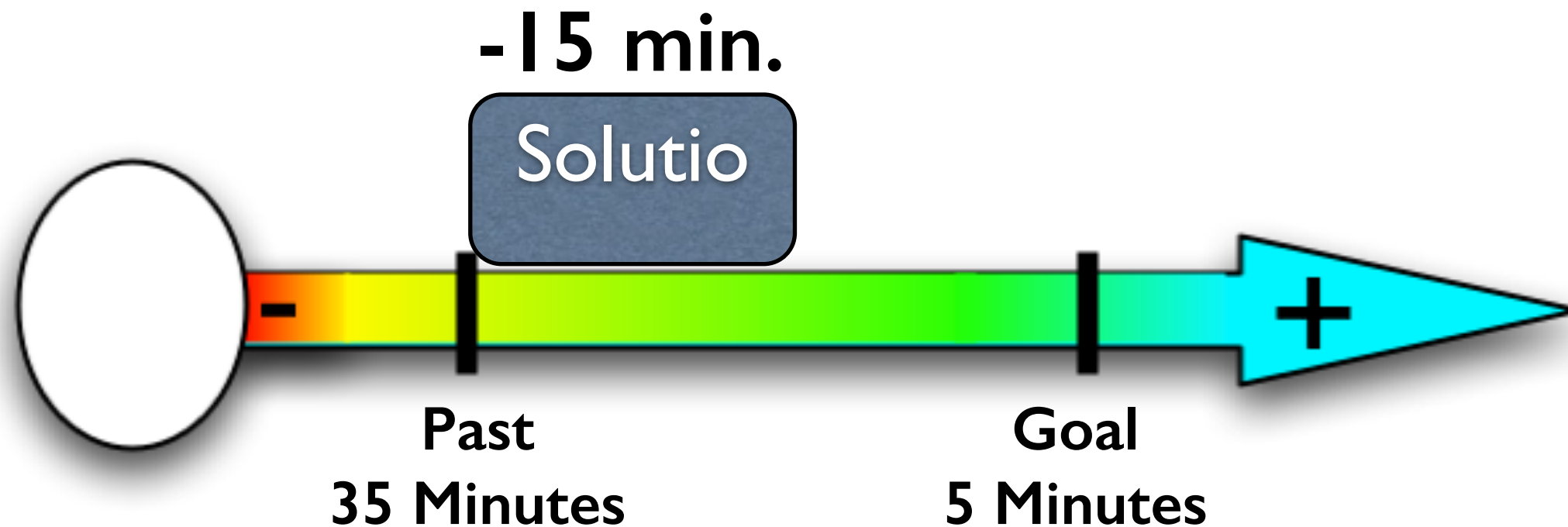
Scale: average time in minutes,
to learn how to
program contact names and telephone numbers
into the memory of the phone.

Userfriendliness.Learn.Contacts



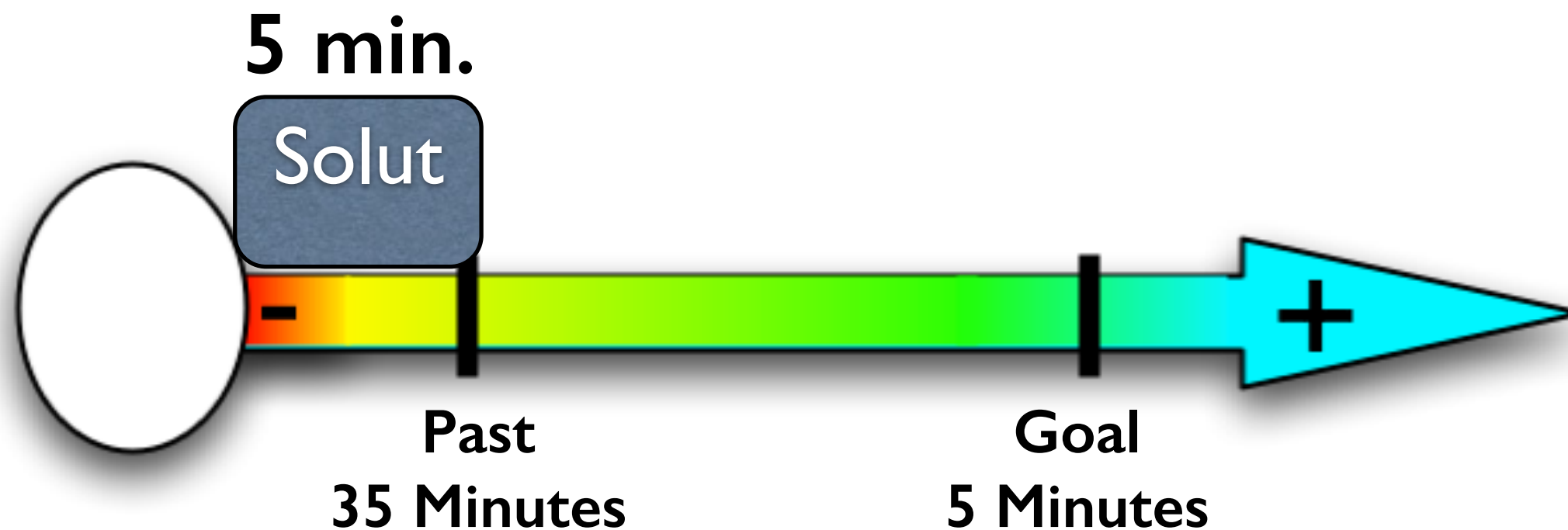
Scale: average time in minutes,
to learn how to
program contact names and telephone numbers
into the memory of the phone.

Userfriendliness.Learn.Contacts



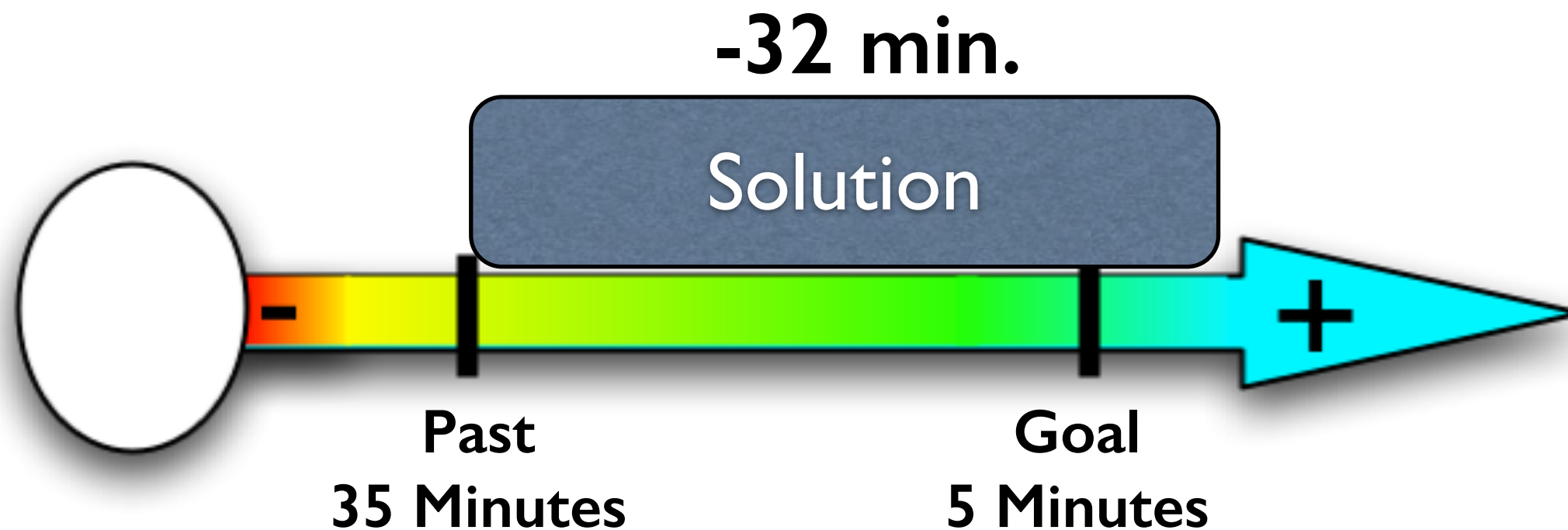
Scale: average time in minutes,
to learn how to
program contact names and telephone numbers
into the memory of the phone.

Userfriendliness.Learn.Contacts



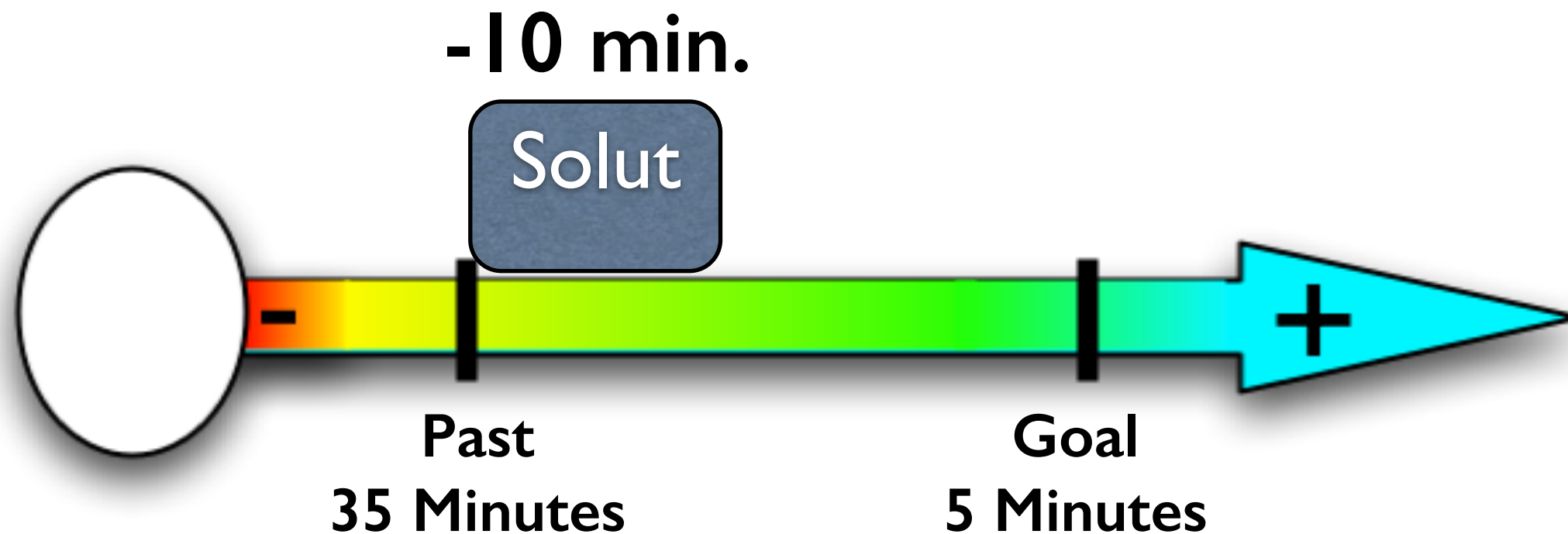
Scale: average time in minutes,
to learn how to
program contact names and telephone numbers
into the memory of the phone.

Userfriendliness.Learn.Contacts

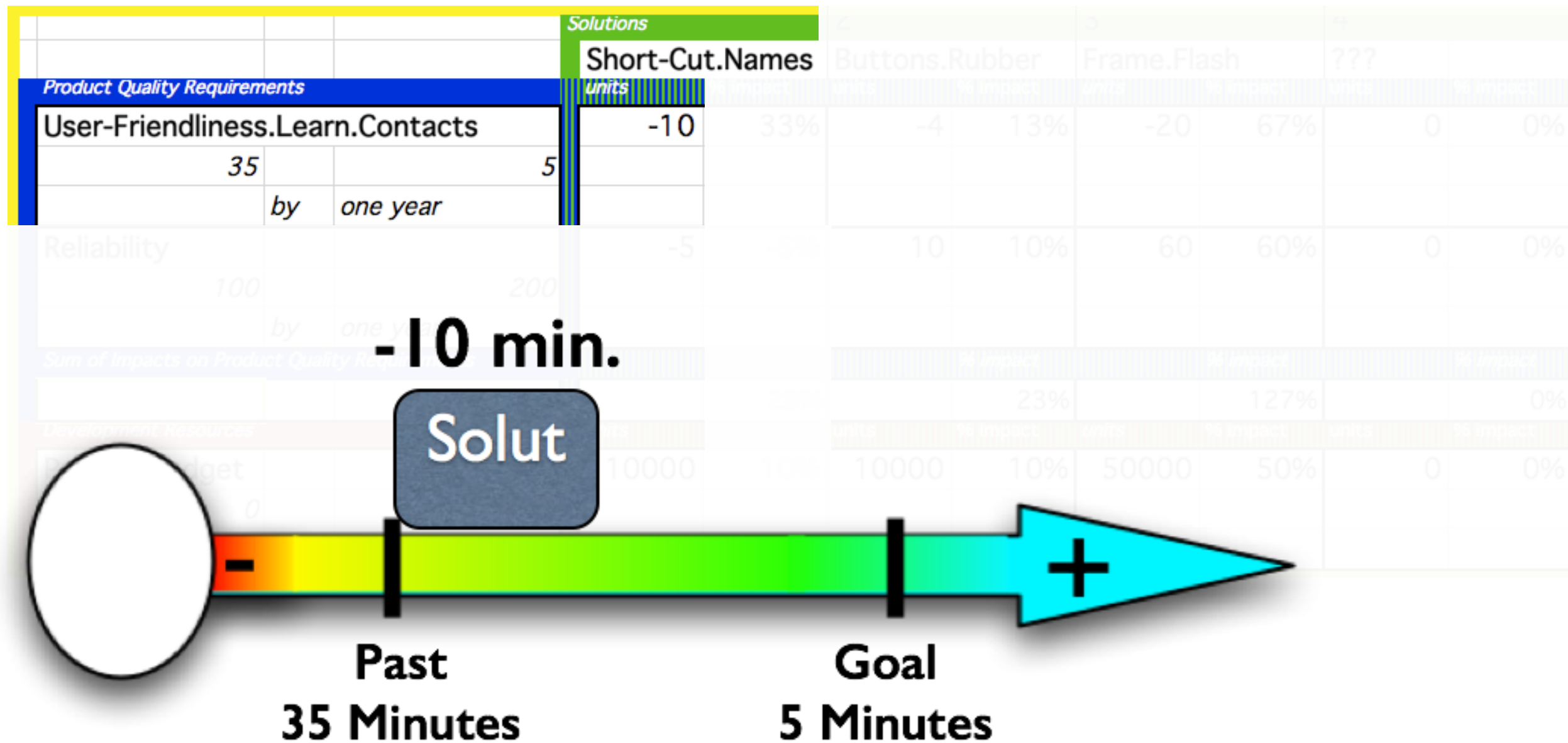


Scale: average time in minutes,
to learn how to
program contact names and telephone numbers
into the memory of the phone.

Userfriendliness.Learn.Contacts



Scale: average time in minutes,
to learn how to
program contact names and telephone numbers
into the memory of the phone.

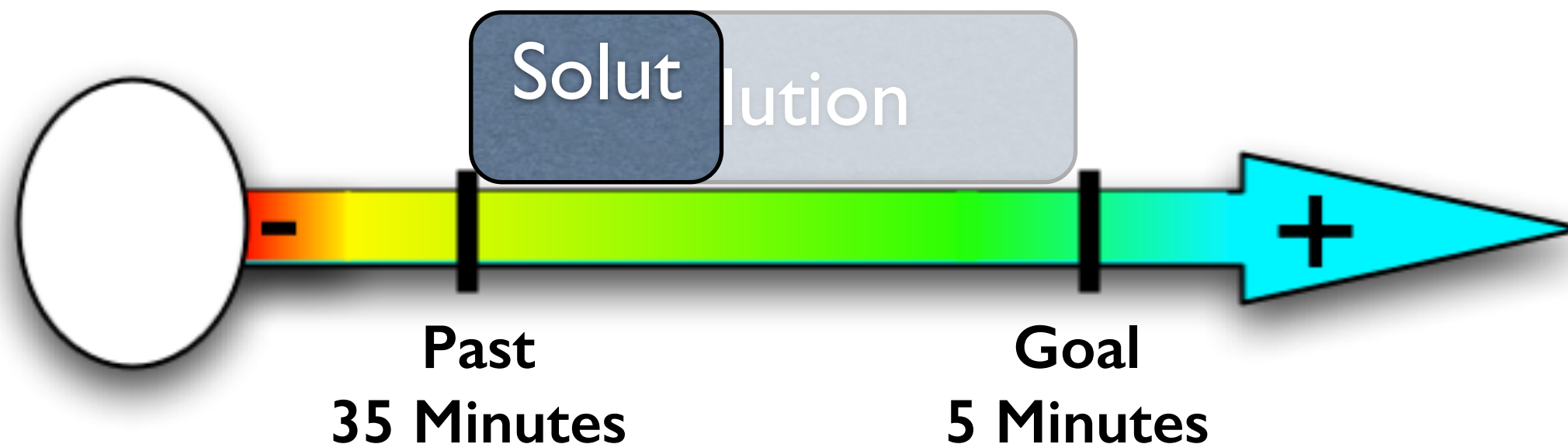


			Solutions		2		3		4	
			Short-Cut.Names		Buttons.Rubber		Frame.Flash		???	
Product Quality Requirements			Units	% Impact	Units	% Impact	Units	% Impact	Units	% Impact
User-Friendliness.Learn.Contacts			-10	33%	-4	13%	-20	67%	0	0%
35		5								
	by	one year								
Reliability			-5	-5%	10	10%	60	60%	0	0%
100		200								
	by	one year								
Sum of Impacts on Product Quality Requirements				% Impact		% Impact		% Impact		% Impact
				28%		23%		127%		0%
Development Resources			Units	% Impact	Units	% Impact	Units	% Impact	Units	% Impact
Project-Budget			10000	10%	10000	10%	50000	50%	0	0%
0		100000								
	by	one year								

			Solutions		2		3		4	
			Short-Cut.Names		Buttons.Rubber		Frame.Flash		???	
Product Quality Requirements			units	% impact	units	% impact	units	% impact	units	% impact
User-Friendliness.Learn.Contacts			-10	33%	-4	13%	-20	67%	0	0%
35		5								
	by	one year								
Reliability			-5	-5%	10	10%	60	60%	0	0%
100		200								
	by	one year								
Sum of Impacts on Product Quality Requirements				% impact		% impact		% impact		% impact
				28%		23%		127%		0%
Development Resources			units	% impact	units	% impact	units	% impact	units	% impact
Project-Budget			10000	10%	10000	10%	50000	50%	0	0%
0		100000								
	by	one year								

Userfriendliness.Learn.Contacts

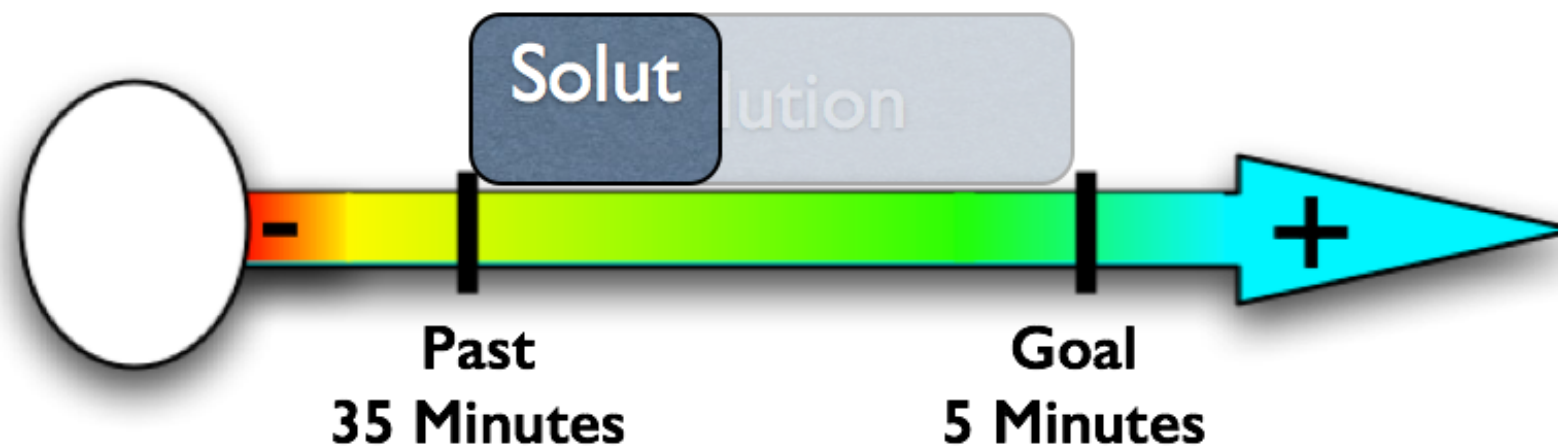
-10 min. = 33% of total



Scale: average time in minutes,
to learn how to
program contact names and telephone numbers
into the memory of the phone.

			Solutions							
			Short-Cut.Names		Buttons.Rubber		Frame.Flash		???	
Product Quality Requirements			units	% impact	units	% impact	units	% impact	units	% impact
User-Friendliness.Learn.Contacts			-10	33%	-4	13%	-20	67%	0	0%
35		5								
	by	one year								
Reliability			-5	-5%	10	10%	60	60%	0	0%
100		200								
	by	one year								
Sum of Impacts on Product Quality Requirements				% impact						
				28%						
						23%		127%		0%
Development Resources			units	% impact	units	% impact	units	% impact	units	% impact
Project-Budget			10000	10%	10000	10%	50000	50%	0	0%
0		100000								
	by	one year								

-10 min. = 33% of total



			Solutions		2		3			
			Short-Cut.Names		Buttons.Rubber		Frame.Flash		???	
Product Quality Requirements			units	% impact						
User-Friendliness.Learn.Contacts			-10	33%	-4	13%	-20	67%	0	0%
35		5								
	by	one year								
Reliability			-5	-5%	10	10%	60	60%	0	0%
100		200								
	by	one year								
Sum of Impacts on Product Quality Requirements				% impact	% impact		% impact		% impact	
				28%	23%		127%		0%	
Development Resources			units	% impact	units	% impact	units	% impact	units	% impact
Project-Budget			10000	10%	10000	10%	50000	50%	0	0%
0		100000								
	by	one year								

			Solutions		L		S		4	
			Short-Cut.Names		Buttons.Rubber		Frame.Flash		???	
Product Quality Requirements			units	% impact	units	% impact	units	% impact	units	% impact
User-Friendliness.Learn.Contacts			-10	33%	-4	13%	-20	67%	0	0%
35		5								
	by	one year								
Reliability			-5	-5%	10	10%	60	60%	0	0%
100		200								
	by	one year								
Sum of Impacts on Product Quality Requirements			% impact		% impact		% impact		% impact	
			28%		23%		127%		0%	
Development Resources			units	% impact	units	% impact	units	% impact	units	% impact
Project-Budget			10000	10%	10000	10%	50000	50%	0	0%
0		100000								
	by	one year								

			Solutions		2	3	4			
			Short-Cut.Names		Buttons.Rubber		Frame.Flash		???	
Product Quality Requirements			units	% impact	units	% impact	units	% impact	units	% impact
User-Friendliness.Learn.Contacts			-10	33%	-4	13%	-20	67%	0	0%
35		5								
	by	one year								
Reliability			-5	-5%	10	10%	60	60%	0	0%
100		200								
	by	one year								
Sum of Impacts on Product Quality Requirements				% impact	% impact		% impact		% impact	
				28%	23%		127%		0%	
Development Resources			units	% impact	units	% impact	units	% impact	units	% impact
Project-Budget			10000	10%	10000	10%	50000	50%	0	0%
0		100000								
	by	one year								

workshop

- Using the quantified requirements you wrote earlier, create a simple VDT

	Optimize	Password
Performance	10%	0%
Security	0%	15%
Sum	10%	15%
Development Resources	5%	5%

Challenges



Challenges

- Is a chosen Solution well suited to meet the Product Quality Goals?



Is a chosen Solution well suited to meet the Product Quality Goals?

	Password	GUI-X
Usability	0 %	15 %
Security	5 %	-5 %

Challenges

- How does one Solution, intended to solve one Product Quality Goal, impact the other critical Product Quality Goals?



How does one Solution, intended to solve one Product Quality Goal, impact the other critical Product Quality Goals?

	Password	GUI-X
Usability	0 %	15 %
Security	5 %	-5 %

Challenges

- With a given set of Solutions, where are the weaknesses hiding, which Product Quality Goals will not be met?



With a given set of Solutions, where are the weaknesses hiding, which Product Quality Goals will not be met?


	Sum	Pass-word	GUI-X	GUI-Std.	Encryption
Usability	100 %	0 %	15 %	90 %	-5 %
Security	80 %	5 %	-5 %	0 %	80 %

Challenges



- How do we compare apples and oranges?




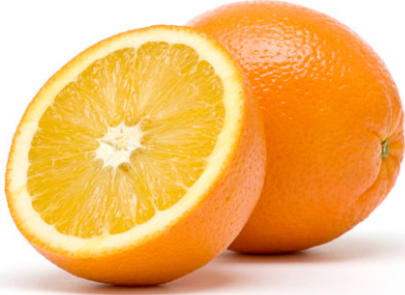

Value Decision Tables

		
Product Value 1		
Product Value 2		
Resources		


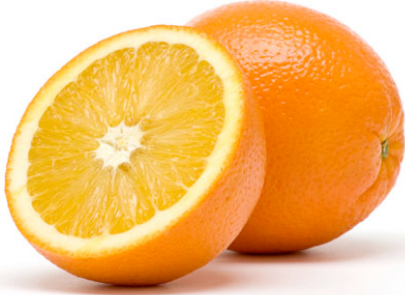

Value Decision Tables

		
Product Value 1		
Product Value 2		
Resources		

Value Decision Tables

			
Product Value 1			
Product Value 2			
Resources			

Value Decision Tables

			
Taste			
Resources			




Value Decision Tables

			
Taste			
Nutrition			
Resources			




Value Decision Tables

			
Taste			
Nutrition			
Shelf Life			
Resources			

Value Decision Tables

			
Taste			
Nutrition			
Shelf Life			
Sum Goodies			
Resources			

Value Decision Tables

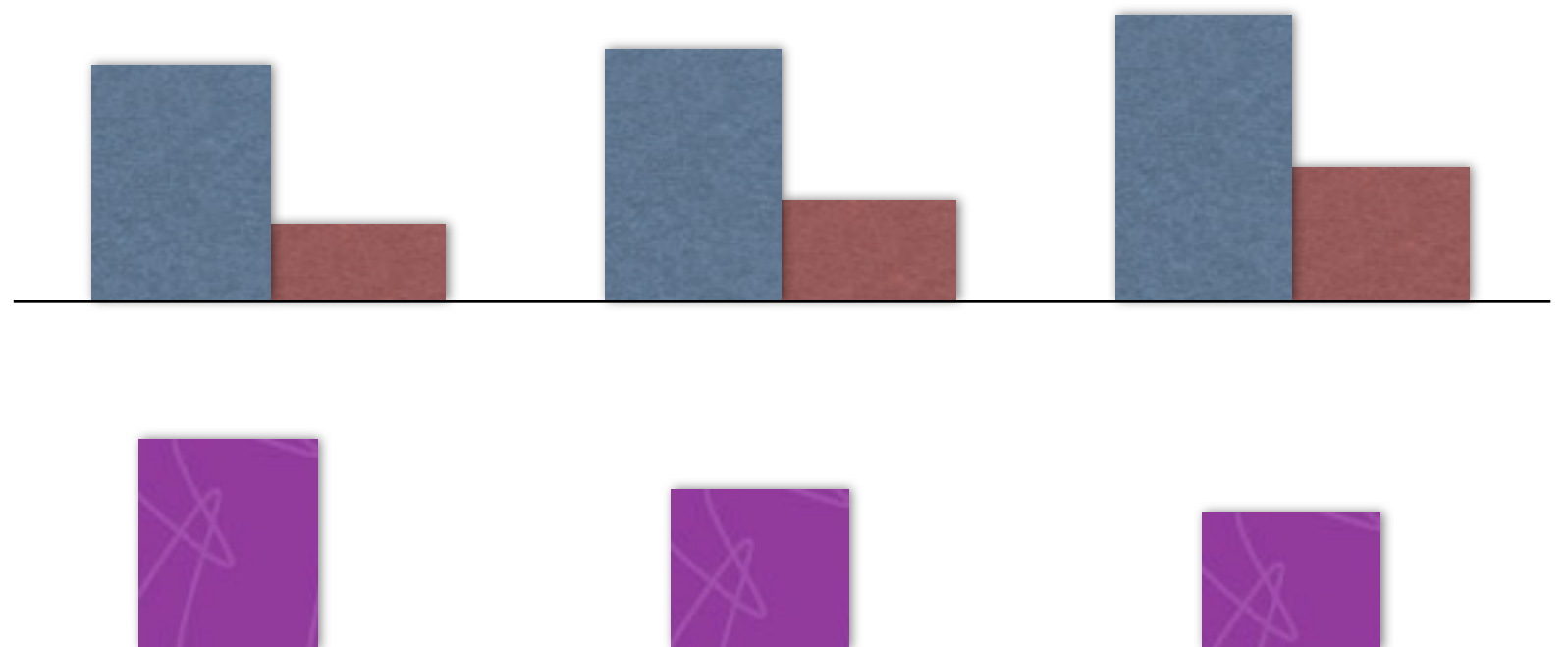
			
Taste	20 %	50 %	90 %
Nutrition	30 %	70 %	90 %
Shelf Life	80 %	30 %	-10 %
Sum Goodies	130 %	150 %	170 %
Resources	40 %	60 %	80 %






Goodies
Resources



Goodies for Resources



Value Decision Tables

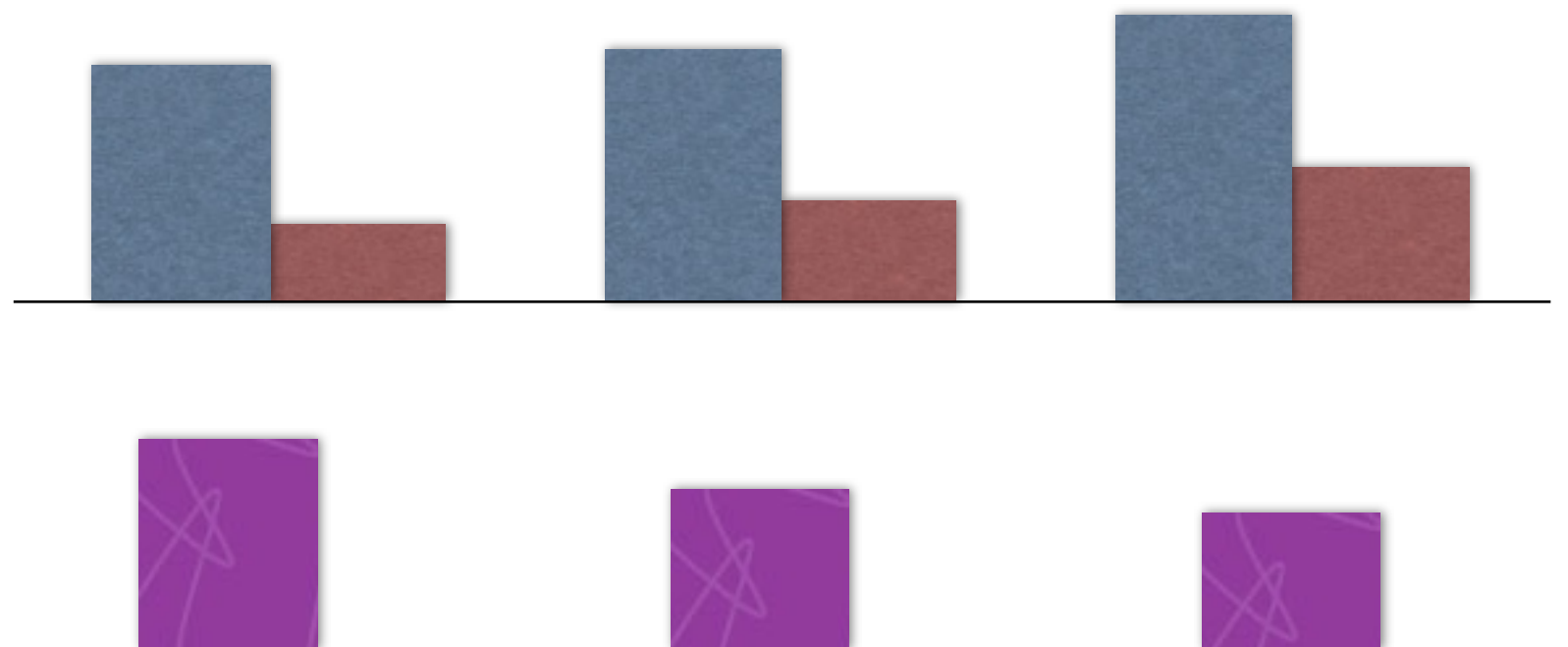
			
Taste	20 %	50 %	90 %
Nutrition	30 %	70 %	90 %
Shelf Life	80 %	30 %	-10 %
Sum Goodies	130 %	150 %	170 %
Resources	40 %	60 %	80 %



Goodies
Resources

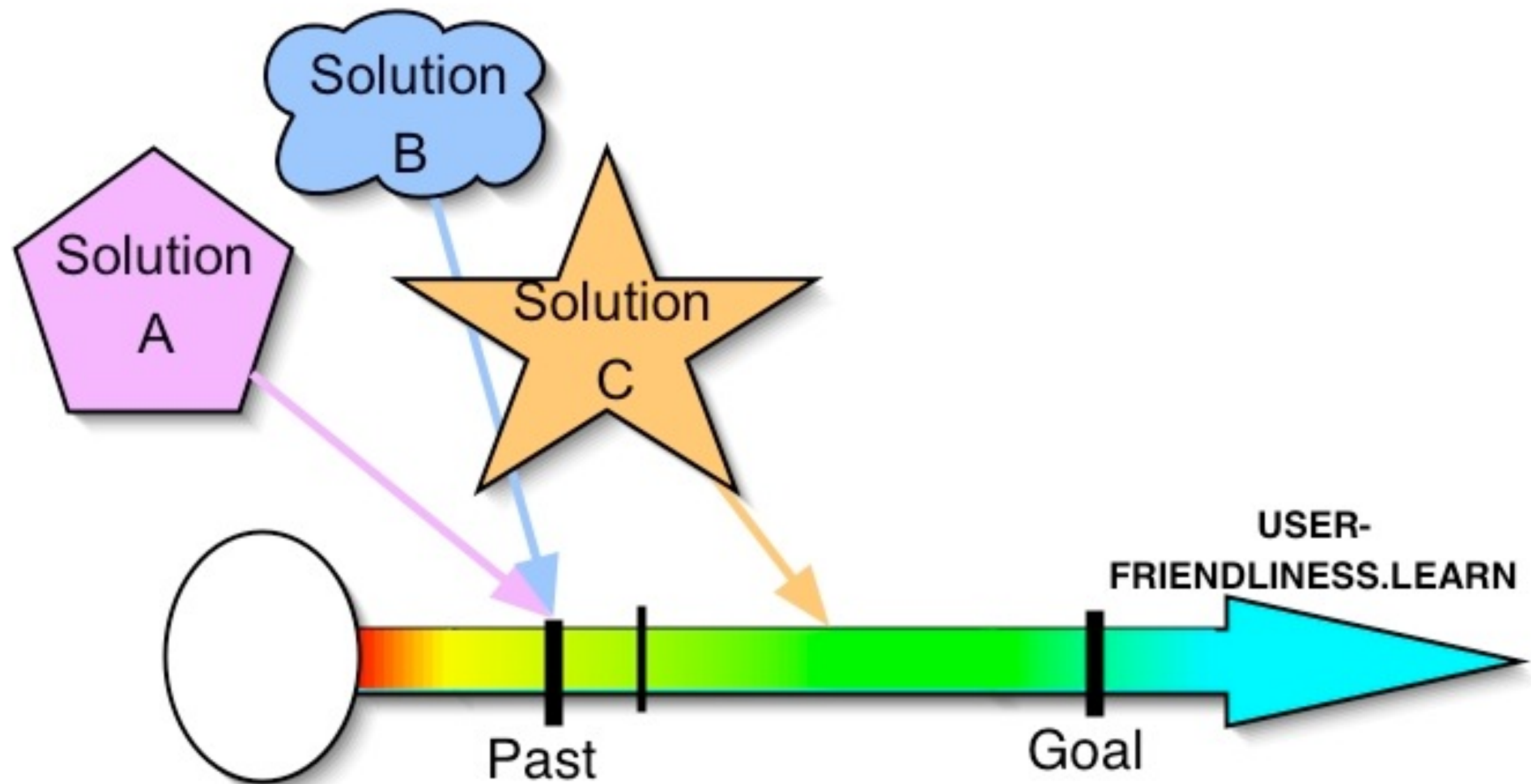


Goodies for Resources



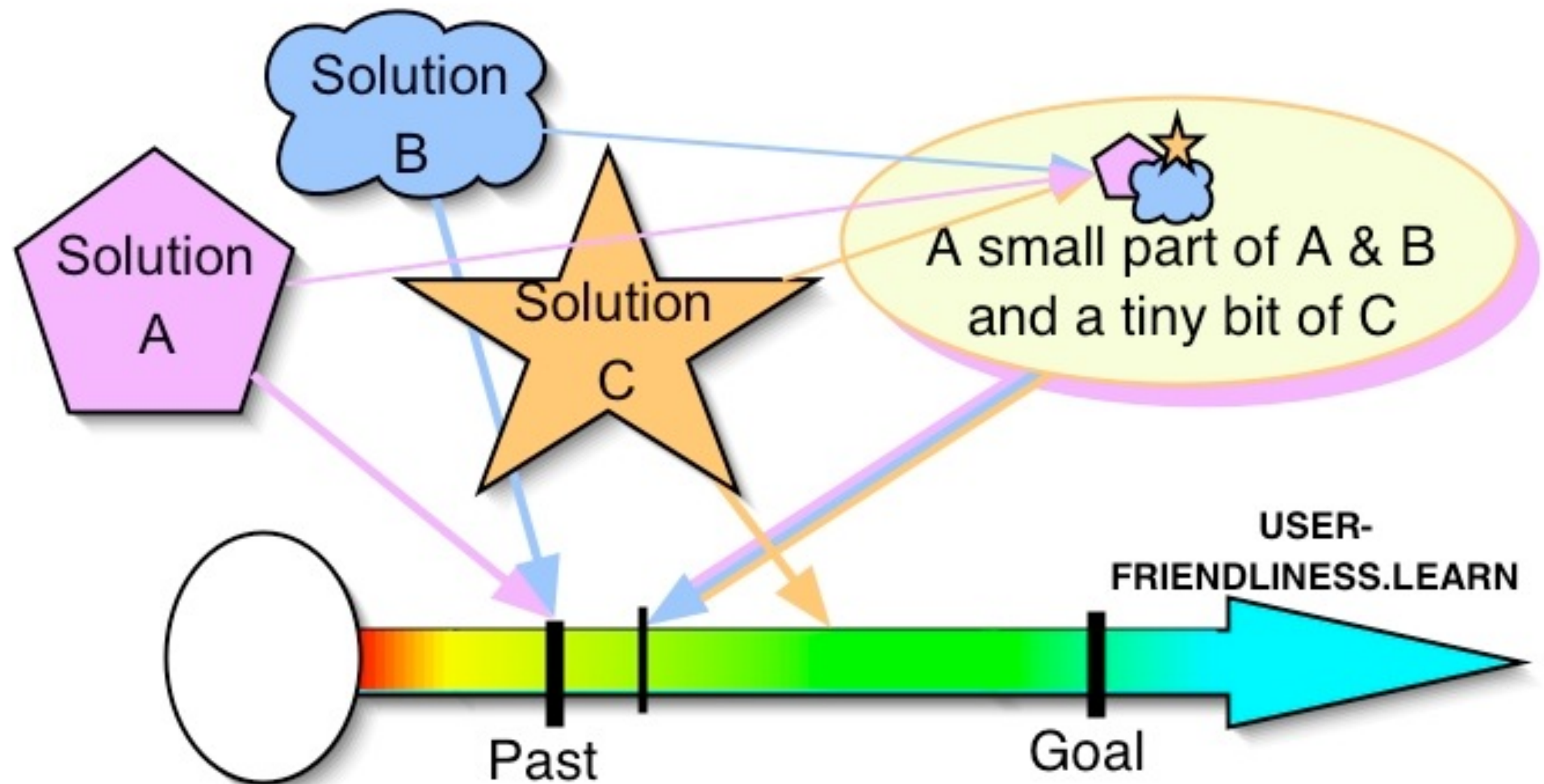
Value Delivery

Evolutionary Steps



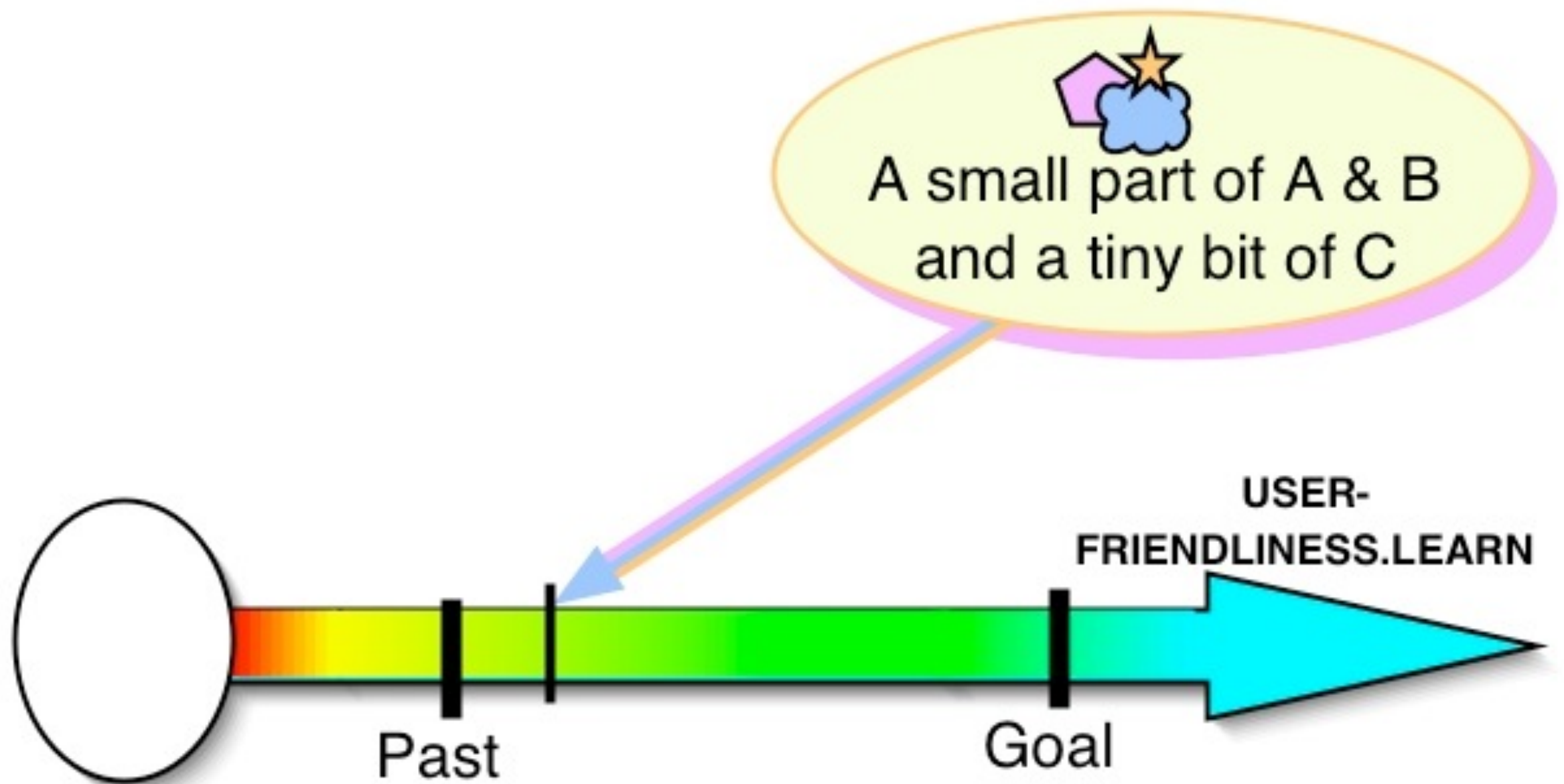
Implemented alone, Solution A & B gives no improvement towards the USER-FRIENDLINESS.LEARN Goal. Solution C does, but would take too much time and cost too much money to be a valid Evolutionary step.

Evolutionary Steps



By combining parts of Solution A & B and spicing it a little with Solution C, we can move forward towards the Goal while still keeping within time & money constraints.

Evolutionary Steps



usually must contain everything that is necessary to improve towards the Goal levels.

Value Delivery Table

		Estimate	Actual	Estimate	Actual
		Step 12 Buttons.Rubber		Step 13 ?	
Goals		Impacts		Impacts	
1	USER-FRIENDLINESS.LEARN 35 5 by one year	-10	33%		
2	RELIABILITY 100 200 by one year	-3	-3%		
Resources		Impacts		Impacts	
	PROJECT-BUDGET 0 100000 by one year	2000	2%		

Value Delivery Table

		Estimate	Actual	Estimate	Actual
		Step 12 Buttons.Rubber		Step 13 ?	
<i>Goals</i>		<i>Impacts</i>		<i>Impacts</i>	
1	USER-FRIENDLINESS.LEARN 35 5 <i>by one year</i>	-10 33%	-5 17%		
2	RELIABILITY 100 200 <i>by one year</i>	-3 -3%	-1 -1%		
<i>Resources</i>		<i>Impacts</i>		<i>Impacts</i>	
	PROJECT-BUDGET 0 100000 <i>by one year</i>	2000 2%	2500 3%		

Value Delivery Table

		Estimate	Actual	Estimate	Actual
		Step 12 Buttons.Rubber		Step 13 ?	
<i>Goals</i>		<i>Impacts</i>		<i>Impacts</i>	
1	USER-FRIENDLINESS.LEARN 35 5 <i>by one year</i>	-10 33%	-5 17%		
2	RELIABILITY 100 200 <i>by one year</i>	-3 -3%	-1 -1%		
<i>Resources</i>		<i>Impacts</i>		<i>Impacts</i>	
	PROJECT-BUDGET 0 100000 <i>by one year</i>	2000 2%	2500 3%		

Value Delivery Table

		Estimate		Actual		Estimate		Actual	
		Step 12 Buttons.Rubber				Step 13 Buttons.Shape & Layout			
Goals		Impacts				Impacts			
1	USER-FRIENDLINESS.LEARN 30 5 by one year	-10	33%	-5	17%	-5	20%		
2	RELIABILITY 99 200 by one year	-3	-3%	-1	-1%	20	20%		
Resources		Impacts				Impacts			
	PROJECT-BUDGET 2500 100000 by one year	2000	2%	2500	3%	1000	1%		

Value Delivery Table

		Estimate		Actual		Estimate		Actual	
		Step 12 Buttons.Rubber				Step 13 Buttons.Shape & Layout			
Goals		Impacts				Impacts			
1	USER-FRIENDLINESS.LEARN	-10	33%	-5	17%	-5	20%	5	-20%
	30 by one year 5								
2	RELIABILITY	-3	-3%	-1	-1%	20	20%	2	2%
	99 by one year 200								
Resources		Impacts				Impacts			
	PROJECT-BUDGET	2000	2%	2500	3%	1000	1%	1000	1%
	2500 by one year 100000								

Value Delivery Table

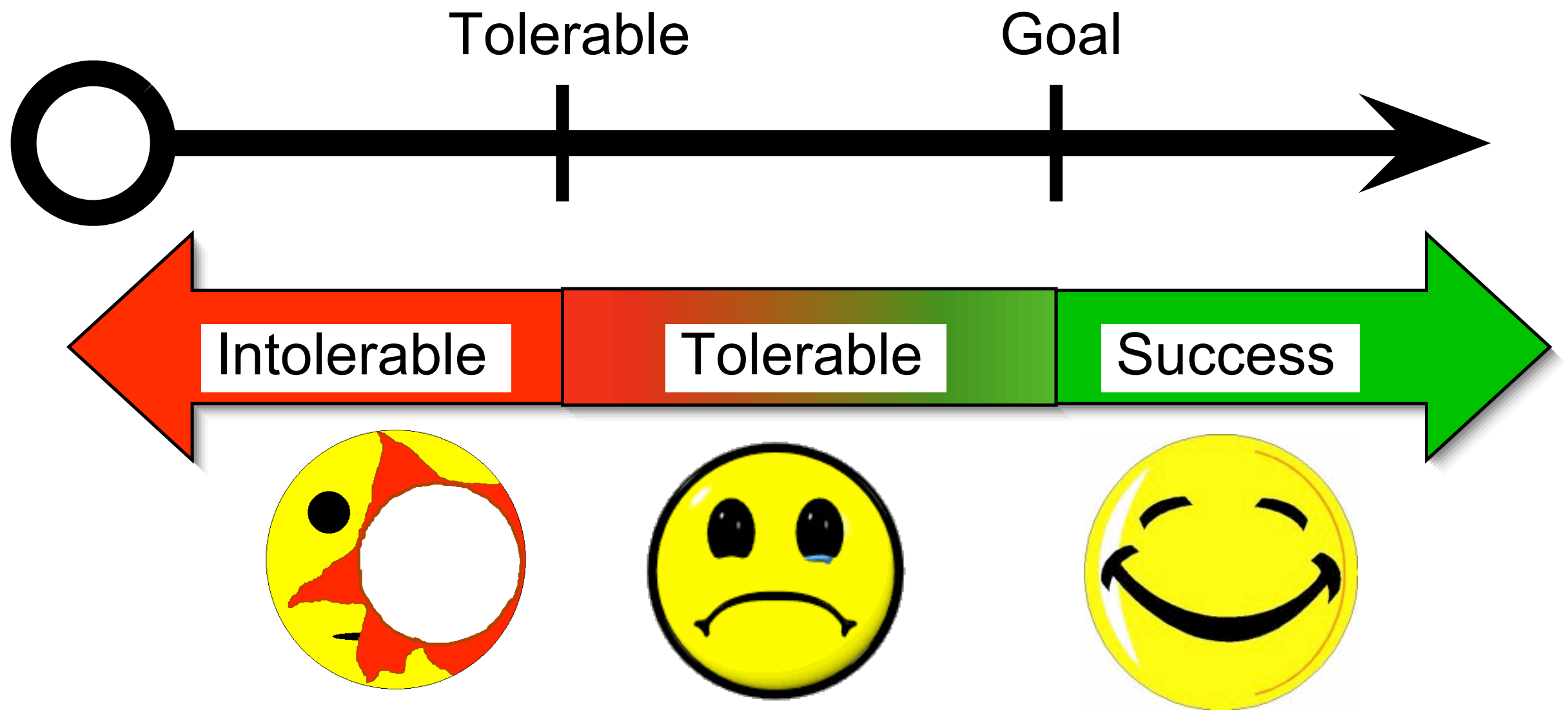
		Estimate	Actual	Estimate	Actual	Estimate	Actual
		Step 12 Buttons.Rubber		Step 13 Buttons.Shape & Layout		Step 14 But.Shape & Layout	
Goals		Impacts		Impacts		Impacts	
1	USER-FRIENDLINESS.LEARN 30 by one year 5	-10 33%	-5 17%	-5 20%	5 -20%	-10 40%	-10 40%
2	RELIABILITY 99 by one year 200	-3 -3%	-1 -1%	20 20%	2 2%	20 20%	15 15%
Resources		Impacts		Impacts		Impacts	
	PROJECT-BUDGET 3500 by one year 100000	2000 2%	2500 3%	1000 1%	1000 1%	1000 1%	1000 1%

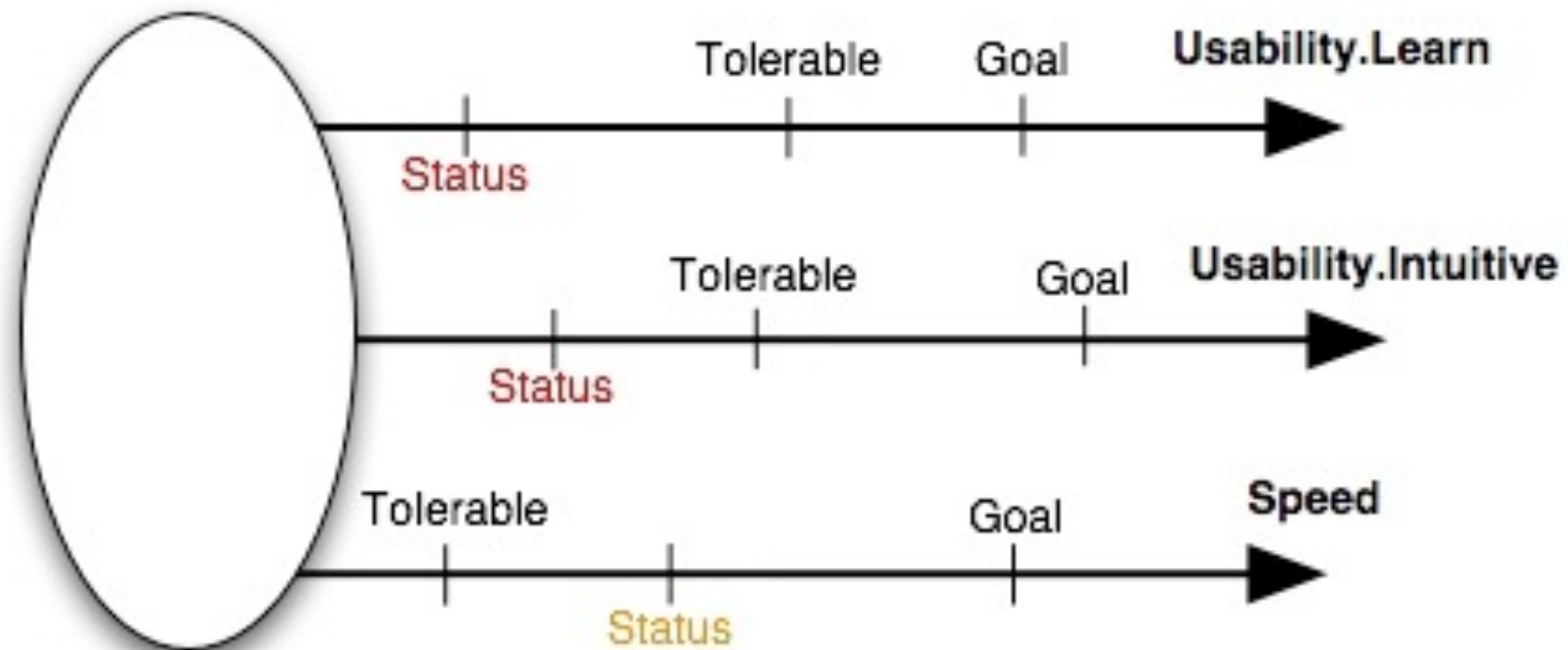
Advanced VDT

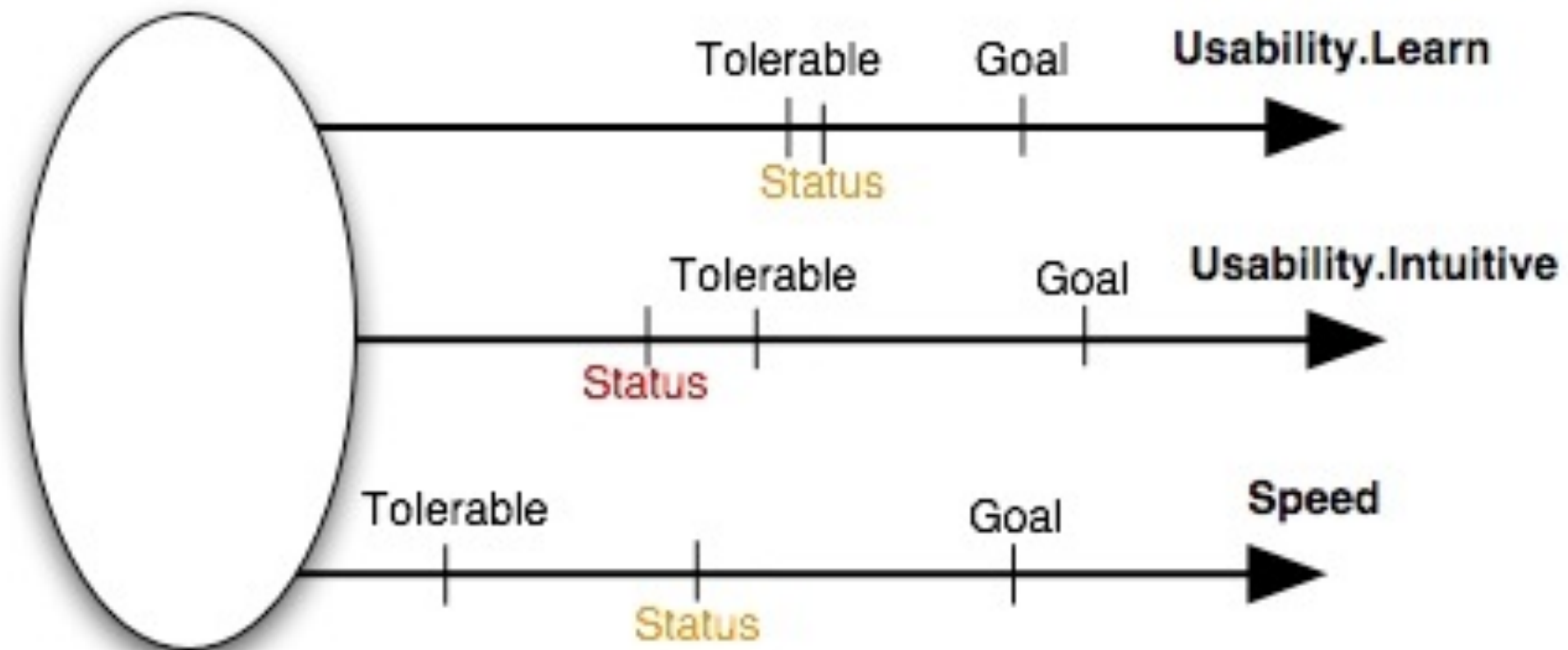
Priority
Optional Possibilities

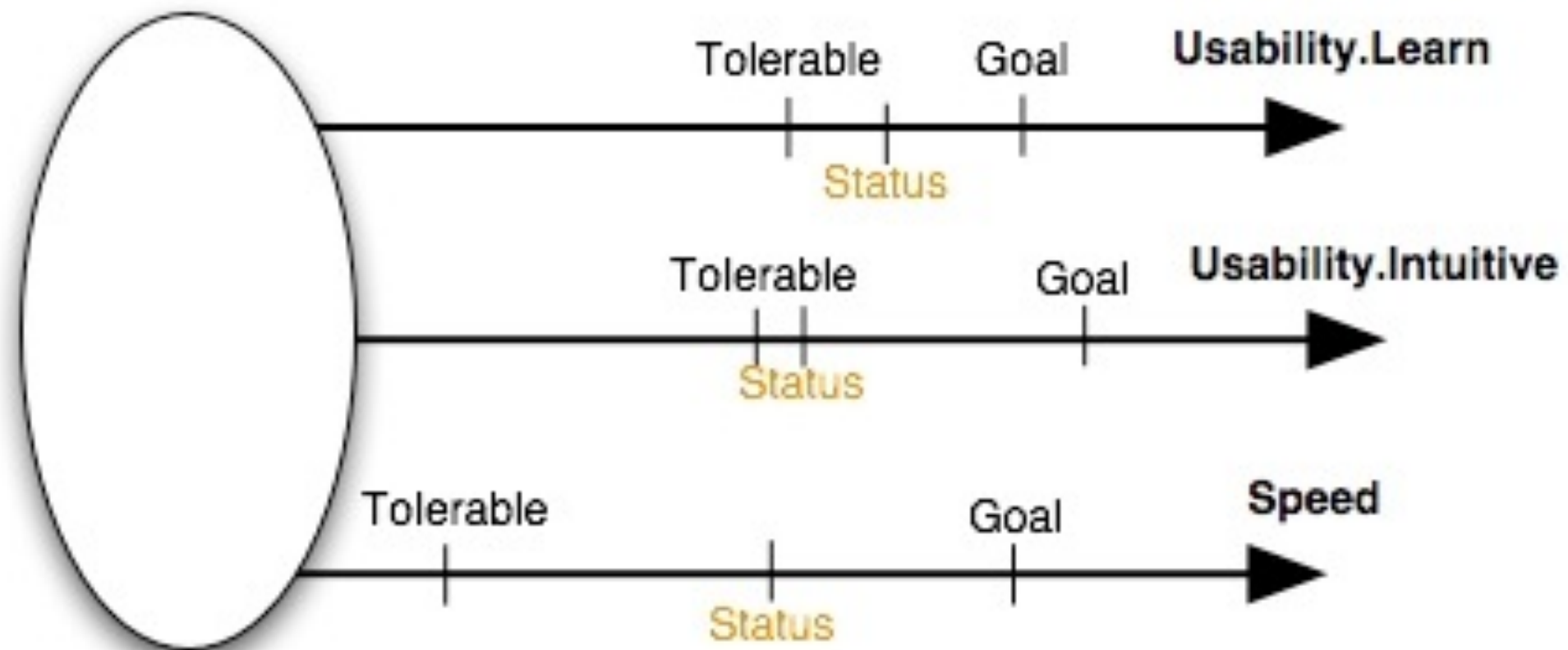
Advanced VDT

Priority
Optional Possibilities









							Estimated Impact	Actual Impact	Estimated Impact	Actual Impact		
	Prooduct Quality Requirements						Cycle 14 But.Shape & Layout		Cycle 15			
	Past	Status		Tolerable	Goal		Units	%	Units	%	Units	%
	User-Friendliness.Learn.Contacts						-10	40%	-10	40%		
	55	20		25	5							
					by a year							
	Reliability						20	20%	15	15%		
	70	114		150	200							
					by a year							
	Style						0	0%	0	0%		
	5	9,5		7	9							
					by a year							
	Development Resources											
	Project-Budget						1000	1%	1000	1%		
	0	4500		140000	100000							

							Estimated Impact		Actual Impact		Estimated Impact		Actual Impact	
	Product Quality Requirements						Cycle 14 But.Shape & Layout				Cycle 15			
	Past	Status		Tolerable	Goal		Units	%	Units	%	Units	%	Units	%
	User-Friendliness.Learn.Contacts						-10	40%	-10	40%				
	55	20		25	5									
					by a year									
	Reliability						20	20%	15	15%				
	70	114		150	200									
					by a year									
	Style						0	0%	0	0%				
	5	9,5		7	9									
					by a year									
	Development Resources													
	Project-Budget						1000	1%	1000	1%				
	0	4500		140000	100000									

Splash.Speaker

Type: Evo Cycle Solution

Description: insert a thin film between the mobile phone speaker and the inside of the housing.

Comment: A common reason for Reliability problems are water getting into the mobile phone through the speaker hole. Splash.Speaker is intended to make the hole for the speaker splash proof.

							Estimated Impact		Actual Impact		Estimated Impact		Actual Impact	
	Product Quality Requirements						Cycle 14 But Shape & Layout				Cycle 15 Splash Speaker			
	Past	Status		Tolerable	Goal		Units	%	Units	%	Units	%	Units	%
	User-Friendliness.Learn.Contacts						-10	40%	-10	40%	0	0%		
	55	20		25	5									
					by a year									
	Reliability						20	20%	15	15%	20	23%		
	70	114		150	200									
					by a year									
	Style						0	0%	0	0%	0	0%		
	5	9,5		7	9									
					by a year									
	Development Resources													
	Project-Budget						1000	1%	1000	1%	1000	1%		
	0	4500		140000	100000									

Splash.Speaker

Type: Evo Cycle Solution

Description: insert a thin film between the mobile phone speaker and the inside of the housing.

Comment: A common reason for Reliability problems are water getting into the mobile phone through the speaker hole. Splash.Speaker is intended to make the hole for the speaker splash proof.

					Estimated Impact Splash.Speaker		Estimated Impact Splash.Keypad		Estimated Impact Battery.Lock		Estimated Impact Screen.Scratch	
Prooduct Quality Requirements												
Past	Status		Tolerable	Goal	Units	%	Units	%	Units	%	Units	%
User-Friendliness.Learn					0	0%	0	0%	-1	7%	0	0%
55	20		25	5								
				by a year								
Reliability					20	23%	25	29%	0	0%	10	12%
70	114		150	200								
				by a year								
Style					0	0%	0	0%	0,5	0%	-0,5	0%
5	9,5		7	9								
				by a year								
Sum of Benefits						23%		29%		7%		12%
Development Resources												
Project-Budget					1000	1%	1700	2%	3000	3%	2000	2%
0	4500		140000	1E+05								
Sum of Development Resources						1%		2%		3%		2%
Benefits / Development Resources						22,21		16,33		2,12		5,5523

Advanced VDT

Priority
Optional Possibilities

			Solutions		2	3	4					
			Short-Cut.Name		Buttons.Rubber	Frame.Flash	Simp					
Product Quality Requirements			units	% impact	units	% impact	units	% impact				
User-Friendliness.Learn.Contacts			-59	197%	-10	33%	-4	13%	-20	67%	-25	83%
35					-5	17%						
by one year					0,7	23%						
Reliability			7				10%	60	60%	10	10%	
100												
by one year												
Sum of Impacts on Product Quality Requirements												
Development Resources												
Money-Budget			7000				10%	50000	50%	0	0%	
0												
by one year												
People-Budget												
0												
by one year												
Sum of Drain on Development Resources												
Development Resources				108%		11%		13%		60%		25%
Benefit to Cost ratios												
Product Qualities / Development Resources						ratio		ratio		ratio		ratio
						2,70		1,87		2,11		3,73

Impact

% Impact

± Variation

% Variation

Experience Level * Experience

-1033%

-517%

0,723%

Impact

% Impact

± Variation

% Variation

Experience Level * Experience

Experience Level

Rating	Meaning
0.0	Wild guess, no experience.
0.1	We know it has been done somewhere.
0.2	We have one measurement somewhere.
0.3	There are several measurements in the estimated range.
0.4	The measurements are relevant to our case.
0.5	The method of measurement is considered reliable.
0.6	We have used the method in-house.
0.7	We have reliable measurements in-house.
0.8	Reliable in-house measurements correlate to independent external measurements.
0.9	We have used the idea on this project and measured it.
1.0	Perfect experience, we have rock solid, contract guaranteed, long-term, credible experience with this idea on this project and, the results are unlikely to disappear.

Solutions		2	3
Short-Cut.Name Buttons.Rubber		Frame	
units	% in	<-Source: The Usability Team, Contact Lisa S.	
-10			
-5	-5%	10	10%

			Solutions		2	3	4
			Sum of Impacts	Short-Cut.Names	Buttons.Rubber	Frame.Flash	Simp
Product Quality Requirements			units % impact	units % impact	units % impact	units % impact	units % impact
User-Friendliness.Learn.Contacts			-59 197%	-10 33%	-4 13%	-20 67%	-25 83%
35		5	-42 140%	-5 17%	-2 7%	-15 50%	-20 67%
by	one year		0,4 68%	0,7 23%	0,5 7%	0,2 13%	0,3 25%
Reliability			75 75%	-5 -5%	10 10%	60 60%	10 10%
100		200	21 21%	-1 -1%	-5 -5%	20 20%	7 7%
by	one year		0,4 31%	0,3 -2%	0,5 5%	0,4 24%	0,3 3%
Sum of Impacts on Product Quality Requirements				% impact	% impact	% impact	% impact
		Sum Impact		28%	23%	127%	93%
		Sum ± Variation		16%	2%	70%	74%
Average Experience		Sum Conservative Impact		0,5 22%	0,5 12%	0,3 37%	0,3 28%
Development Resources			units % impact	units % impact	units % impact	units % impact	units % impact
Money-Budget			70000 70%	10000 10%	10000 10%	50000 50%	0 0%
0		100000	24000 24%	1000 1%	3000 3%	20000 20%	0 0%
by	one year		0,6 93%	0,7 13%	0,5 15%	0,7 65%	0,5 0%
People-Budget			7,6 38%	0,1 1%	0,5 3%	2 10%	5 25%
0		20	5,4 27%	0,1 1%	0,3 2%	1 5%	4 20%
by	one year		0,3 70%	0,7 1%	0,3 4%	0,2 18%	0,1 48%
Sum of Drain on Development Resources			% impact	% impact	% impact	% impact	% impact
		Sum Impact		11%	13%	60%	25%
		Sum ± Variation		2%	5%	25%	20%
Average Experience		Sum Conservative Impact		0,7 14%	0,4 19%	0,45 83%	0,3 48%
Benefit to Cost Ratios				ratio	ratio	ratio	ratio
Sum Benefit / Sum Resources				2,70	1,87	2,11	3,73
(Sum Benefit - Sum ±) / (Sum Resources + Sum Res. ±)				1,06	1,27	0,67	0,44
(Sum Benefit * Credibility) / (Sum Resources * Credibility)				1,93	2,33	1,41	3,73
(Sum Benefit * Credibility - Sum±) / (Sum Res. * Credibility + Res.±)				-0,17	1,05	-0,62	-1,66