

# Leading Technical Change

Nathaniel T. Schutta  
@ntschutta

Technology changes.

Constantly.

Technology doesn't age well.

Risk often ignored.

Until it can't be.

Technology modernization.

How do we deal with that?



Potholes need to be filled.

Problem is obvious.

What about software?

Customers can't see it.

What do you mean  
the code is "old"?

But it works right?

What do we do about it?

Keeping up.

There's a lot of  
bits out there...

New languages,  
techniques, approaches.

How do you keep up?

Blogs? Books? Twitter?  
Podcasts? Conferences?



Attention is precious.

Don't waste it.

Be selective.

Can't read it all.

In fact, you'll miss almost everything.

<http://www.npr.org/blogs/monkeysee/2011/04/21/135508305/the-sad-beautiful-fact-that-were-all-going-to-miss-almost-everything>

Cull or surrender.

Consider an information diet.

Pick the areas you care about.

Go deep on that.

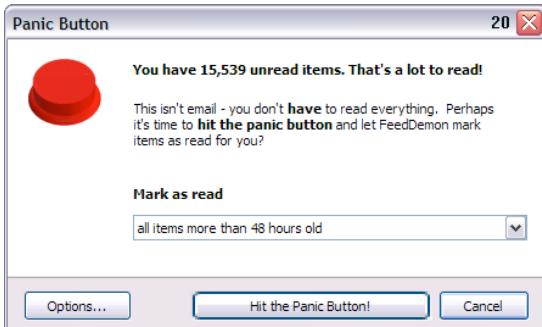
Skim the rest.

“Selective Ignorance.”

Use your friends ;)

Prune aggressively.

If you’re not reading  
it, delete it.



If they're not updating...



A/B stream.

Take advantage of  
dead space.

Bring articles to meetings.

Read while waiting.

Listen on the way to work.

Or while you workout!

Books on “CD.”

Turn off the TV?

Average American - 151  
hours of TV a month.

[http://blog.nielsen.com/nielsenwire/online\\_mobile/tv-internet-and-mobile-usage-in-us-continues-to-rise/](http://blog.nielsen.com/nielsenwire/online_mobile/tv-internet-and-mobile-usage-in-us-continues-to-rise/)

Two hundred billion hours annually (U.S.)

2,000 Wikipedias a year.

100 million hours a weekend watching ads.

That's a Wikipedia a weekend. On ads.

[http://www.shirky.com/herecomeseverybody/  
2008/04/looking-for-the-mouse.html](http://www.shirky.com/herecomeseverybody/2008/04/looking-for-the-mouse.html)

It isn't just TV though.



200 million minutes...

[http://www.wired.co.uk/magazine/archive/2011/04/  
features/how-rovio-made-angry-birds-a-winner?page=all](http://www.wired.co.uk/magazine/archive/2011/04/features/how-rovio-made-angry-birds-a-winner?page=all)

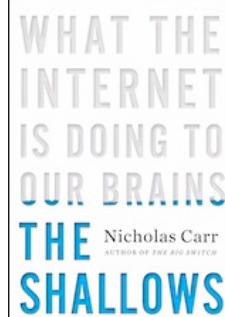
A DAY!

16 years...every hour.

That's a lot of surplus.

Does the Internet Make  
You Smarter?

[http://online.wsj.com/article/  
SB10001424052748704025304575284973472694334.html](http://online.wsj.com/article/SB10001424052748704025304575284973472694334.html)



**COGNITIVE SURPLUS**  
CREATIVITY AND GENEROSITY  
IN A CONNECTED AGE

**CLAY SHIRKY**

Imagine what even a small change might mean.

What should you pursue?

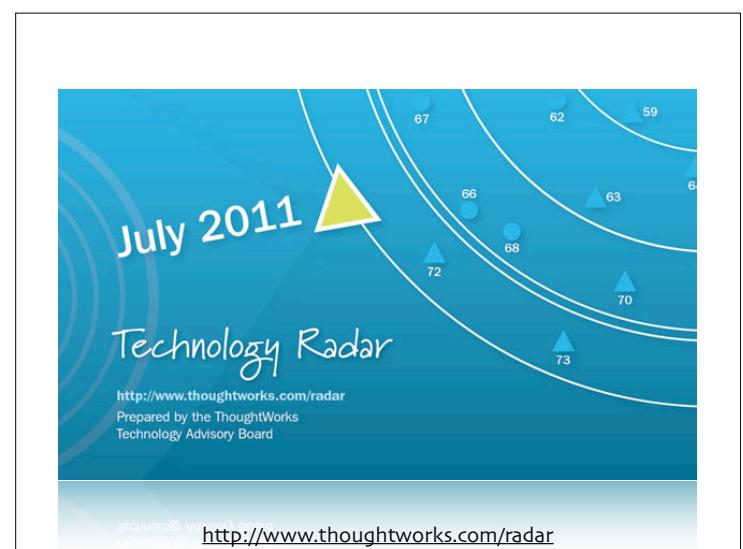
What are you interested in?

What skills are valuable?

Bleeding edge... trailing edge.

Employable? Enjoyable?

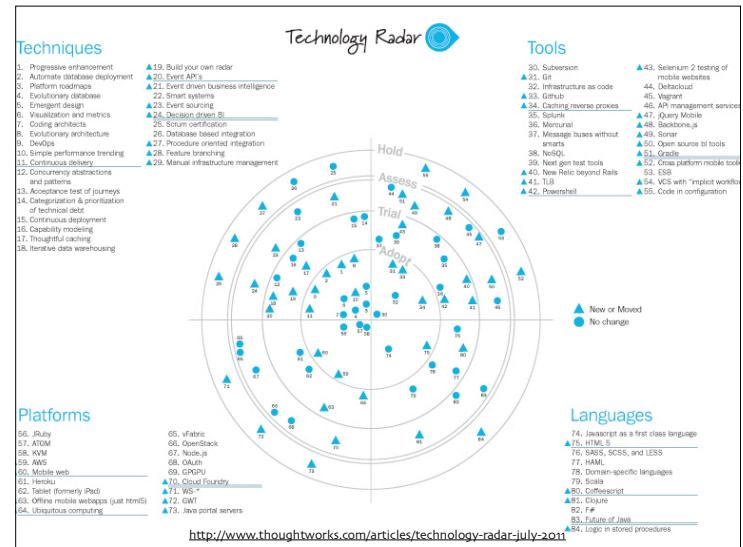
## Technology radar.



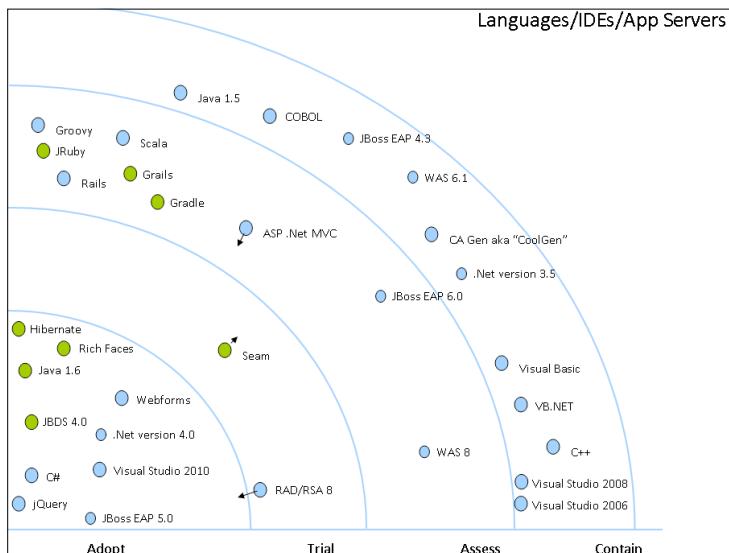
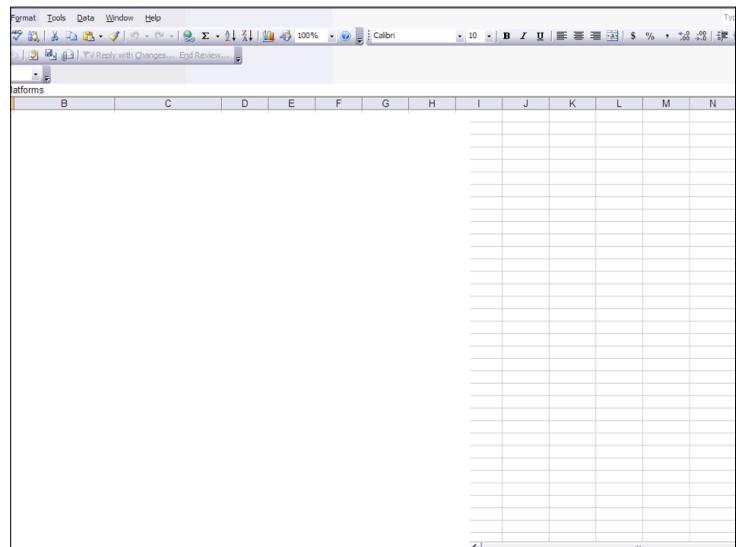
Visual way to understand technology trends.

What is emerging?  
What is dying?

What should we invest in?



# What's easier to understand?



The rings.

Hold, Assess, Trial, Adopt.

Still early or on it's way out...

Demo, examining suitability.

Pilot project.

You should be using...now.

Modify the language  
for your company.

Contain, Assess, Early  
Adopter, Generally Available.

Quadrants.

Techniques, tools,  
platforms, languages.

Again, modify for  
your needs.

Build one for your company.

Sticky notes, white board.

Start with your existing  
documentation.

Make a rough pass.

Get feedback.

Iterate!

Socialize it.

Great for business folks.

Great for all levels.

Better, build one  
for yourself.

Portfolio theory.

Most of your money -  
solid returns.

Small amount - high risk,  
high reward.

Same with tech skills.

What are “solid” skills today?

What are the fliers?

Litmus tests.

How do you test it?

How do you diff it?

How do you version it?

How do you automate it?

What are your “canaries”  
exploring today?

Cost - TCO, not just licenses.

Vendors aren't your friend.

"Every time you're in a meeting with vendors, you're getting played. They're professionals at selling, you are an amateur at buying."

*— Unnamed Architect*

Move past the surface level explanations...

Yes, it supports WSRP.

Ah, but its old...and non compliant.

Technically, not a lie.

Just not the right question.

Smart execs have a  
techie in the room.

“It’s customizable.”

Pick your poison.

Build it.

Buy it.

Don't mix the two.

Beware the  
PackageCustomization.

Does the skill set match up  
with your developers?

<http://martinfowler.com/bliki/PackageCustomization.html>

What about the ones  
you want to hire?

Does it “fit” your company?

What about the politics?

What are your litmus tests?

What are your  
\*company's\* litmus tests?

Do they match up?

What if they don't?

Introducing change.

Use the radar!

Great visual.



Quantify the risk.

How much does the “old”  
approach cost us?

What is our bus number?

Does the vendor support it?

"It's only three users..."

If it stopped working  
tomorrow...

What would that cost us?

Don't throw good  
money after bad!

Acknowledge the negatives.

No tech is perfect,  
don't pretend it is.

What do you like about it?

What don't you like about it?

What would you add?

What would you remove?

King of Java for a day...

How does it stack up to alternatives?

The spreadsheet approach.

Options across the top.

Criteria down the left.

Criteria can be weighted.

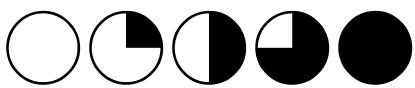
Requirement	Weighting out of 100	Raw Score	Weighted Score max 500			
				C	D	E
1	4	0	0			
2	2	0	0			
3	5	0	0			
4	4	0	0			
5	3	0	0			
6	4	0	0			
7	4	0	0			
8	3	0	0			
9	5	0	0			
10	4	0	0			
11	4	0	0			
12	3	0	0			
13	5	0	0			
14	4	0	0			
15	4	0	0			
16	3	0	0			
17	3	0	0			
18	2	0	0			
19	3	0	0			
20	4	0	0			
21	4	0	0			
22	3	0	0			
23	5	0	0			
24	4	0	0			
25	4	0	0			
26	3	0	0			
27	5	0	0			
28	4	0	0			
29	4	0	0			
30	3	0	0			
31	3	0	0			
32	2	0	0			
33	3	0	0			
34	4	0	0			
35	4	0	0			
36	3	0	0			
37	5	0	0			
38	4	0	0			
39	4	0	0			
40	3	0	0			
41	3	0	0			
42	2	0	0			
43	3	0	0			
44	4	0	0			
45	4	0	0			
46	3	0	0			
47	5	0	0			
48	4	0	0			
49	4	0	0			
50	3	0	0			
51	3	0	0			
52	2	0	0			
53	3	0	0			
54	4	0	0			
55	4	0	0			
56	3	0	0			
57	5	0	0			
58	4	0	0			
59	4	0	0			
60	3	0	0			
61	3	0	0			
62	2	0	0			
63	3	0	0			
64	4	0	0			
65	4	0	0			
66	3	0	0			
67	5	0	0			
68	4	0	0			
69	4	0	0			
70	3	0	0			
71	3	0	0			
72	2	0	0			
73	3	0	0			
74	4	0	0			
75	4	0	0			
76	3	0	0			
77	5	0	0			
78	4	0	0			
79	4	0	0			
80	3	0	0			
81	3	0	0			
82	2	0	0			
83	3	0	0			
84	4	0	0			
85	4	0	0			
86	3	0	0			
87	5	0	0			
88	4	0	0			
89	4	0	0			
90	3	0	0			
91	3	0	0			
92	2	0	0			
93	3	0	0			
94	4	0	0			
95	4	0	0			
96	3	0	0			
97	5	0	0			
98	4	0	0			
99	4	0	0			
100	3	0	0			
101	3	0	0			
102	2	0	0			
103	3	0	0			
104	4	0	0			
105	4	0	0			
106	3	0	0			
107	5	0	0			
108	4	0	0			
109	4	0	0			
110	3	0	0			
111	3	0	0			
112	2	0	0			
113	3	0	0			
114	4	0	0			
115	4	0	0			
116	3	0	0			
117	5	0	0			
118	4	0	0			
119	4	0	0			
120	3	0	0			
121	3	0	0			
122	2	0	0			
123	3	0	0			
124	4	0	0			
125	4	0	0			
126	3	0	0			
127	5	0	0			
128	4	0	0			
129	4	0	0			
130	3	0	0			
131	3	0	0			
132	2	0	0			
133	3	0	0			
134	4	0	0			
135	4	0	0			
136	3	0	0			
137	5	0	0			
138	4	0	0			
139	4	0	0			
140	3	0	0			
141	3	0	0			
142	2	0	0			
143	3	0	0			
144	4	0	0			
145	4	0	0			
146	3	0	0			
147	5	0	0			
148	4	0	0			
149	4	0	0			
150	3	0	0			
151	3	0	0			
152	2	0	0			
153	3	0	0			
154	4	0	0			
155	4	0	0			
156	3	0	0			
157	5	0	0			
158	4	0	0			
159	4	0	0			
160	3	0	0			
161	3	0	0			
162	2	0	0			
163	3	0	0			
164	4	0	0			
165	4	0	0			
166	3	0	0			
167	5	0	0			
168	4	0	0			
169	4	0	0			
170	3	0	0			
171	3	0	0			
172	2	0	0			
173	3	0	0			
174	4	0	0			
175	4	0	0			
176	3	0	0			
177	5	0	0			
178	4	0	0			
179	4	0	0			
180	3	0	0			
181	3	0	0			
182	2	0	0			
183	3	0	0			
184	4	0	0			
185	4	0	0			
186	3	0	0			
187	5	0	0			
188	4	0	0			
189	4	0	0			
190	3	0	0			
191	3	0	0			
192	2	0	0			
193	3	0	0			
194	4	0	0			
195	4	0	0			
196	3	0	0			
197	5	0	0			
198	4	0	0			
199	4	0	0			
200	3	0	0			
201	3	0	0			
202	2	0	0			
203	3	0	0			
204	4	0	0			
205	4	0	0			
206	3	0	0			
207	5	0	0			
208	4	0	0			
209	4	0	0			
210	3	0	0			
211	3	0	0			
212	2	0	0			
213	3	0	0			
214	4	0	0			
215	4	0	0			
216	3	0	0			
217	5	0	0			
218	4	0	0			
219	4	0	0			
220	3	0	0			
221	3	0	0			
222	2	0	0			
223	3	0	0			
224	4	0	0			
225	4	0	0			
226	3	0	0			
227	5	0	0			
228	4	0	0			
229	4	0	0			
230	3	0	0			
231	3	0	0			
232	2	0	0			
233	3	0	0			
234	4	0	0			
235	4	0	0			
236	3	0	0			
237	5	0	0			
238	4	0	0			
239	4	0	0			
240	3	0	0			
241	3	0	0			
242	2	0	0			
243	3	0	0			
244	4	0	0			
245	4	0	0			
246	3	0	0			
247	5	0	0			
248	4	0	0			
249	4	0	0			
250	3	0	0			
251	3	0	0			
252	2	0	0			
253	3	0	0			
254	4	0	0			
255	4	0	0			
256	3	0	0			
257	5	0	0			
258	4	0	0			
259	4	0	0			

Microsoft Excel - Portal\_Criteria.xls

	A	B	C	D	E	F
	Alerting					
Draft & Publish Environments						
Content Authoring						
Document Management						
Import Content From Interwoven						
Versioning and rollback of content						
Check-in and check-out content						
Save content in a user or group specific folder						
Create automated lists of content stored in the portal						
WSRP-base profile consumer and producer support						
Support for Multiple Portlets						
Portlets can communicate with each other in an implicit or explicit mode						
RSS Feeds						
Certified JSR – 286 portlet container						
Cognos						
Outlook						
SharePoint						
Xcelplus						
Strategic Search						

Harvey balls.

[http://en.wikipedia.org/wiki/Harvey\\_Balls](http://en.wikipedia.org/wiki/Harvey_Balls)



How closely does it map to the criteria?

Very effective...

What criteria should you use?

How should they  
be weighted?

Book clubs.

Cheap way to  
introduce new ideas.

Pick a book, get a  
conference room, go!

Conferences!

What are the new ideas?

What should you  
be looking at?

Give a talk!

Brown bags.

Politics.

Should just be  
about the tech.

It isn't.

Relationships...



Stakeholder analysis.

What's important to them?

What's their background?

What are their concerns?

What is the decision  
maker influenced by?

Who has her ear?

Influence the influencers.

Consider things from your  
manager's point of view.

We say let's use Clojure.

Your manager hears:



They think “risk”.

Is it?

Are you chasing a  
shiny new toy?



Be prepared.

Have your arguments ready.

There might be a rational reason for current state.

Maybe.

What I told you was true... from a certain point of view

Tech is easy.

Culture is hard.

We are flawed creatures.

Predictably irrational.

Over thinking it will  
drive you nuts.

Resistance.

Expect resistance.

People don't like change.

"[T]he innovator has for enemies all those who have done well under the old conditions, and lukewarm defenders in those who may do well under the new."

— Niccolò Machiavelli

Reputations may be at stake.

There will be FUD.

Be prepared for it.

What will they attack?

What is your counter?

Keep a pain register.

How much time/effort/etc?

A few weeks, a few months...what is the cost?

Harder to argue data.

New laptop - 2 hours a week waiting...

Pays for itself.

May have to do it “the wrong way” first.

What are the opportunity costs?

What are your competitors doing?

They won’t tell you why they’re beating you.

Listen.

What are the concerns?

Some legitimate issues.

Don't just dismiss them!

Address them.

Have a conversation!

This won't work...



How are you  
communicating?

With respect?

With derision?

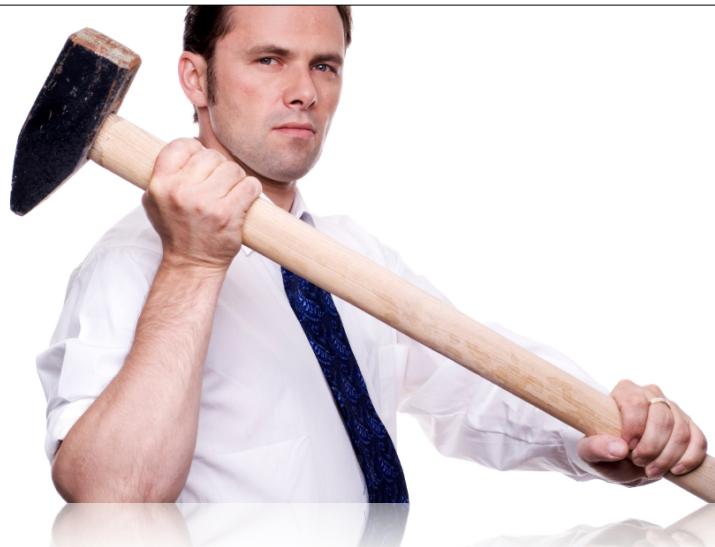
Change.

Change is tricky.

Habits are hard to break.

New Years  
resolutions anyone?

Two approaches...



We can't force change.

But we can influence.

Keep in mind:

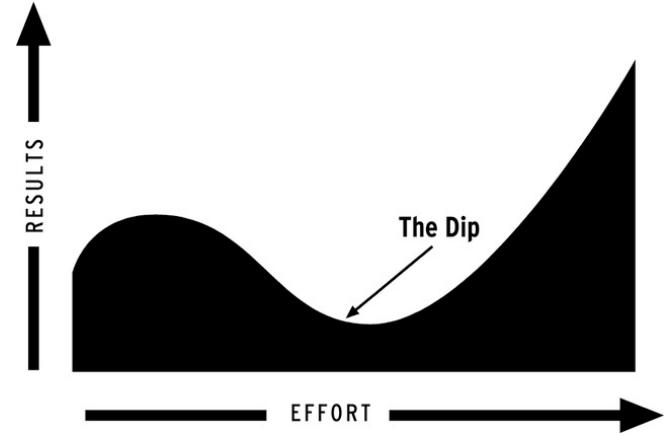
“Change must happen with people not to them.”

— David Hussman  
<http://devjam.com>

Change is hard to maintain.

We get worse before we get better.

It's easy to back slide.



The Dip.

[http://sethgodin.typepad.com/the\\_dip/](http://sethgodin.typepad.com/the_dip/)

We have to push through the dip.

Thus why force doesn't work well...

Change takes time.

Be patient.

Change can overwhelm.

Don't try to change  
too much at once.

Recipe for failure.



Crawl, Walk, Run.

It's not easy!

There's no recipe.



Rider, elephant,  
environment.

Just do it.

May have to.

Feel strongly?

Do it yourself...on  
your own time.

4 weeks vs. 4 evenings.

Hard to argue.

Marketing.

How are products marketed?

To whom?

Are you the audience?

Or executives?

Some vendors speak exec  
better than others.

\*How\* you communicate  
matters more than you think.

Presentations matter!

Presentation patterns.

<http://presentationpatterns.com/>

How you  
communicate matters.

What is most effective in  
your organization?

What is the pain point?

Can you tie it back to  
exec level goals?

Even if it's a stretch...

Sonar, Jenkins.

Better to lead...

Retail politics.

Recruit the influencers.

Grab coffee.



Grass roots.

Make it visible.



“It's easier to ask  
forgiveness than it is to  
get permission.”

— Grace Hopper

Do it, prove it.

People rarely argue  
with success.

“Change your organization or  
change your organization.”

— Martin Fowler

Be an agent of change.

Better to lead the effort...

Than be stuck with what  
others decide for you.

Be aware of the politics of  
your organization.

Have fun!

#### Image Credits

- <http://www.flickr.com/photos/puliarfanita/3363258711/>
- <http://www.flickr.com/photos/paulsynott/2874663697/>

# Thanks!

Nathaniel T. Schutta  
@ntschutta