

coding {the} architecture

IT projects; if you can't beat them,
change the game



Simon Brown

Software Architect | Developer | Consultant | Coach | Trainer | Speaker | Author



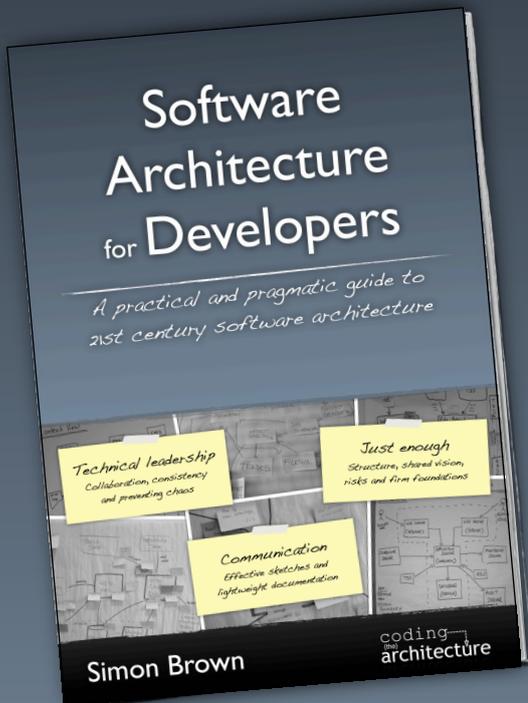


simon.brown@codingthearchitecture.com

@simonbrown on Twitter



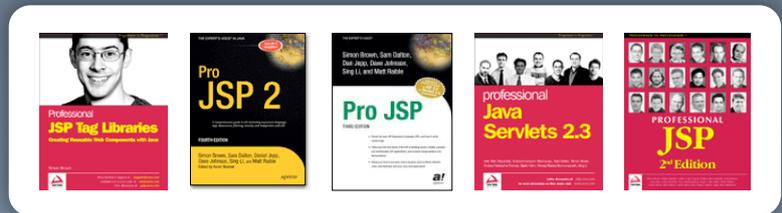
Writing
Software development plus training and consulting

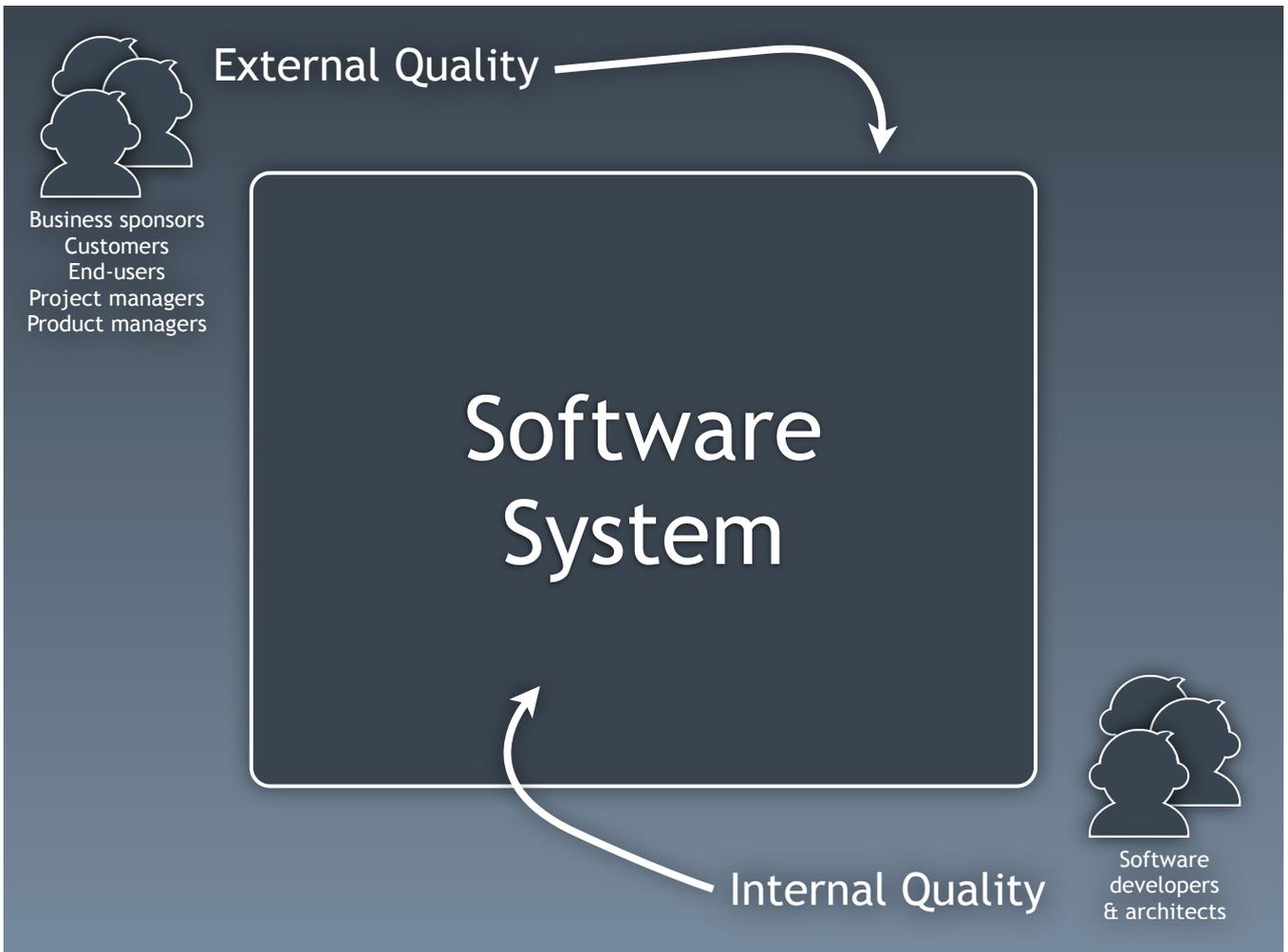
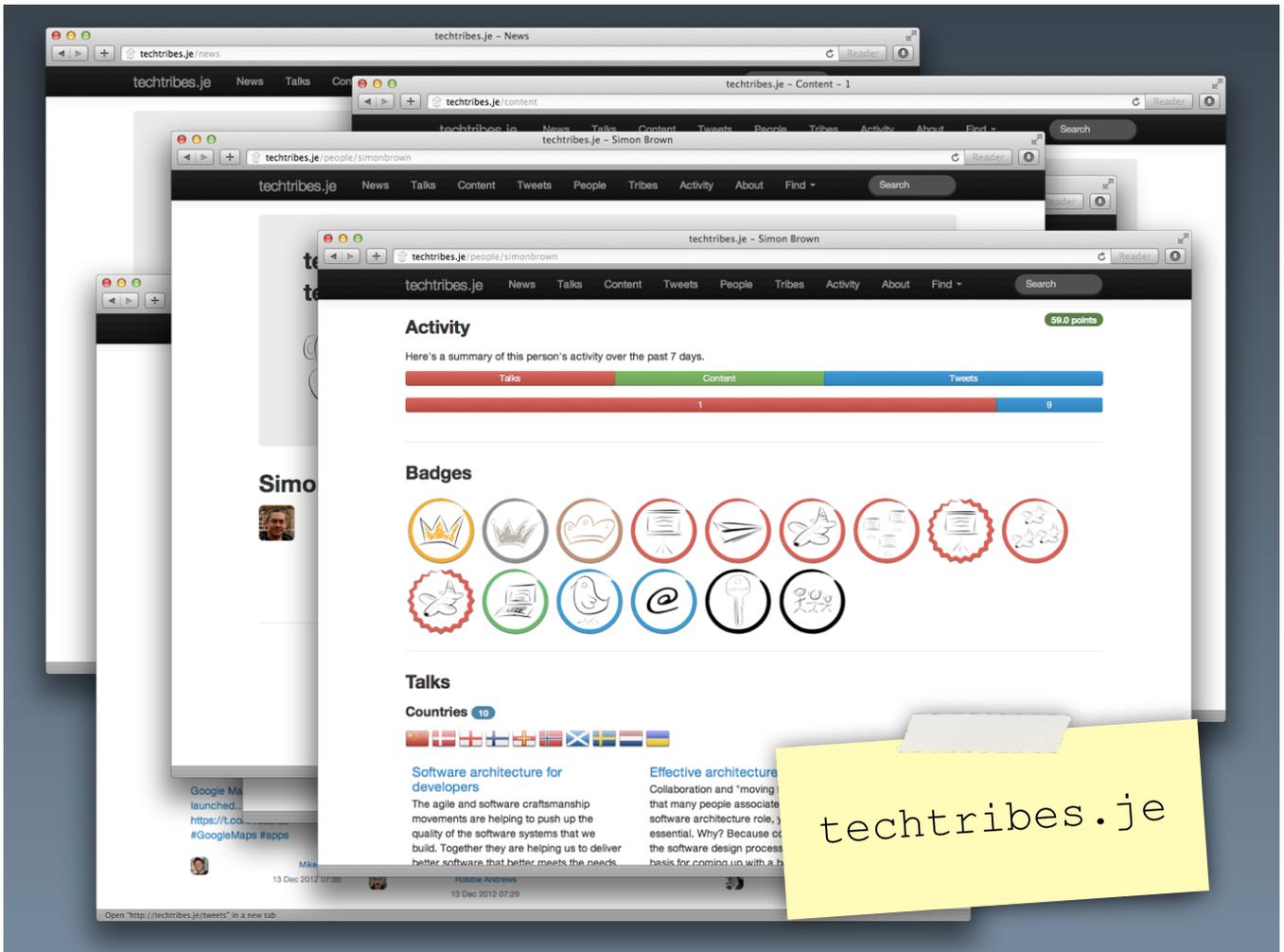


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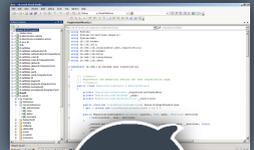






Chaos!

Does the team understand what they are building and how they are building it?



Why?



This is a presentation of two halves...

Chapter 1

“Them & Us”

IT industry 'oligarchy' is 'ripping government off', MPs told

Kathleen Hall
Tuesday 15 March 2011 16:30

The IT industry is an "oligarchy" that is ripping off the government, MPs were told at a select committee meeting on Tuesday.

Martin Rice, chief executive of software development company Erudine, slammed the IT sector for taking advantage of the government's lack of in-house IT expertise.

Speaking at the Public Administration Committee meeting into the efficiency of government IT he said, "As government off. People didn't make a noise about this until the government's moratorium on IT contracts. E wheel, and as a taxpayer that shouldn't be allowed. There's an oligarchy for which it is not profitable to bribe government," he said.

However, Rice said the industry was not solely to blame, as the government had acted as a non-intelligent decision to create quick savings by outsourcing its IT.

BCS chief executive David Clarke told MPs that a lack of in-house IT skills was a big factor.

"The government has to have the skills to make sure failures don't happen. There was a whole skills set outsourced in the 1980s and hasn't been replaced," he said.

But Sureyya Cansoy, director at IT trade association Intellect, said the industry was aware of the mistake

"It takes two to tango. We are seeing real opportunities to do things differently, with areas such as open And the industry is working with the government to make these things work - it has to as its sustenance told the committee.

Rice says the solution is for the government to concentrate on smaller IT contracts.

"The real innovation tends to come from small companies. The route to government is through the system many SMEs don't get involved. The simplistic answer is to buy small, not big. There are global companies hundreds of millions of customers and they don't have the same sort of IT budgets as the government. chequebook," he said.

Clarke added, "Because the cost gets so great, we get fewer and fewer suppliers. The UK public sector than any other public sector in Europe."

The costly and bureaucratic public sector purchasing process makes it difficult for small suppliers to the MPs.

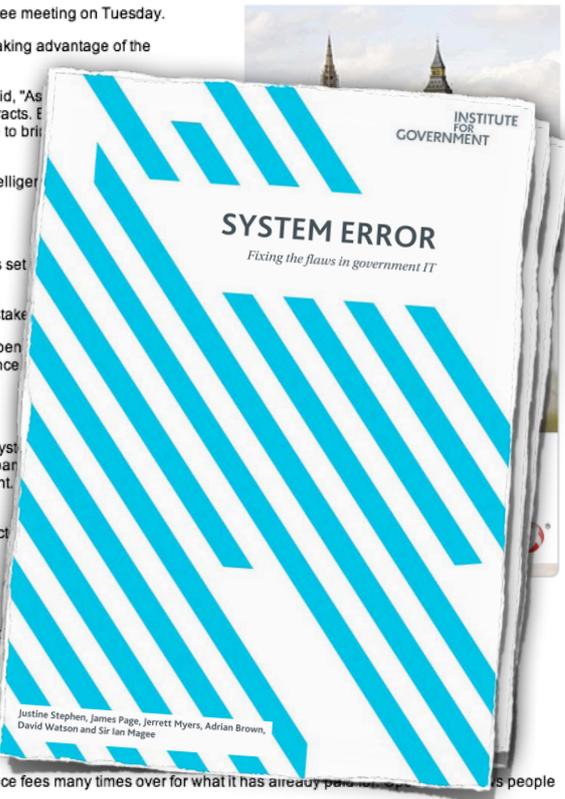
"The cost of each procurement to suppliers can sometimes cost a couple of million, that's not an amount

The government's intention to use an agile approach, which provides flexibility to change projects a pounds, spend a few tens of thousands experimenting - get clever people to do a very quick system

Jim Killock, director of digital campaign body The Open Rights Group, says there are positive areas

"The question of open standards is important as the government doesn't want to be locked into very

"Open source has the potential for government to retain control of IP rights and not be charged licence fees many times over for what it has already paid for. It is people to construct a market, but also to criticise and look at what the government is doing."



Grady Booch
@Grady_Booch

If you are a company whose value added relies on tech, outsourcing all of your IT needs is a #ProfoundlyStupid idea.
informationweek.com/security/attac...

Exclusive: Anatomy Of A Brokerage IT Meltdown

Regulators last year issued the SEC's first-ever privacy fine against broker-dealer GunnAllen for failing to protect customer data. But former IT staffers say regulators didn't seem to know half of this cautionary tale of outsourcing and oversight gone wrong.

By **Matthew J. Schwartz** | InformationWeek
October 08, 2012 09:06 AM

The network slowdown was one of the first clues that something was amiss at GunnAllen Financial, a now defunct broker-dealer whose IT problems were only a symptom of widespread mismanagement and deeper misconduct at the firm.

It was the spring of 2005. Over a period of roughly seven business days, traffic had slowed to a crawl at the Tampa, Fla.-based firm, which had outsourced its IT department to [The Revere Group](#). GunnAllen's acting CIO, a Revere Group partner, asked a member of the IT team to investigate.

More Security Insights

Webcasts

- Exposing the Money Behind Malware

Dan Saccavino, a former Revere Group employee who at the time served at GunnAllen as the IT manager in charge of the help desk, laptops, and desktops, says he and another network engineer eventually pinpointed the cause of the slowdown: A senior network engineer had disabled the company's WatchGuard

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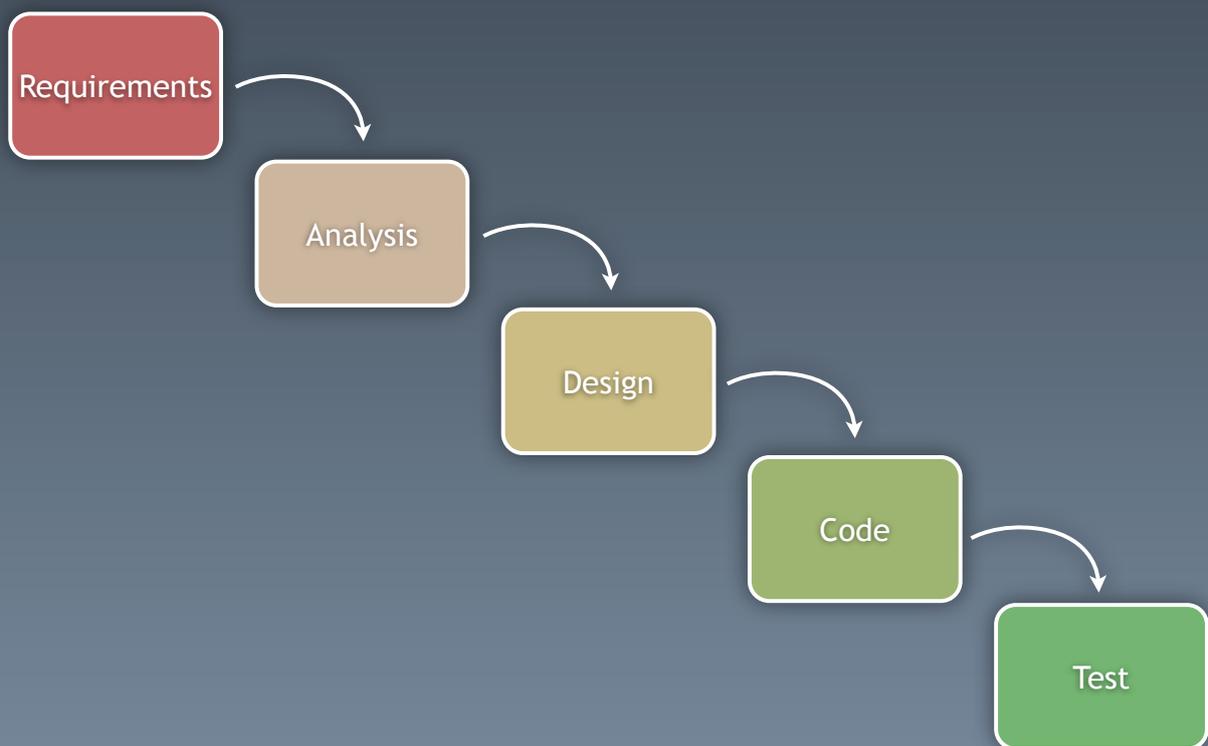
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Expert IT: Accelerate Big Data and Cloud with Expert

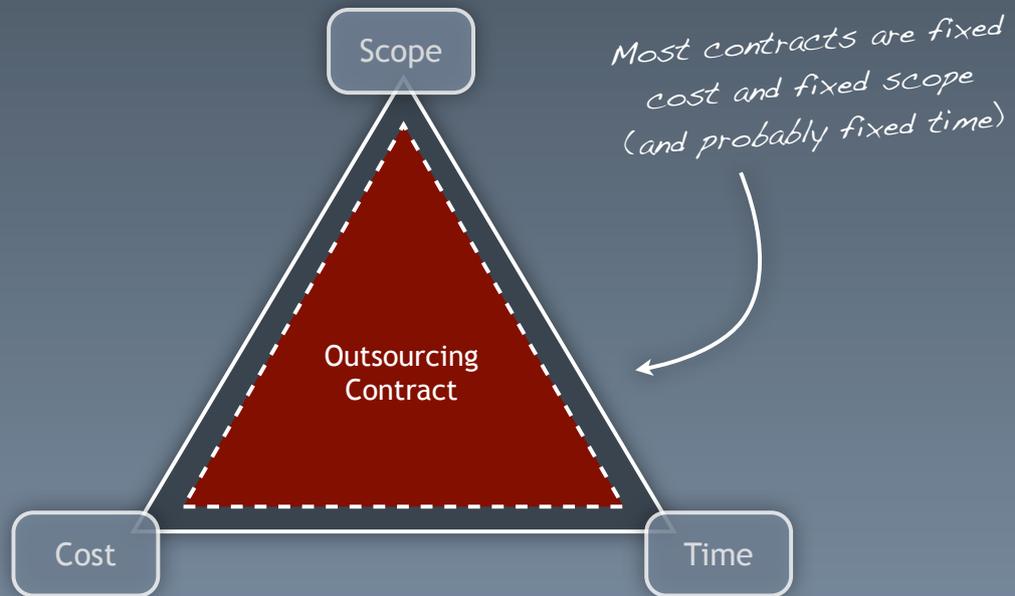
Most IT projects simply do
**what they've
always done**

*And this is usually a
variation of the
"Waterfall" model :-/*

The "Waterfall" Model



Outsourcing and offshoring complicate the situation



I want an IT system built for under

£150,000



Customer

The go-live deadline is the
1st March 2013



Customer

And I want a
**coffee with
milk**



Customer

I actually wanted a
**double-shot
vanilla latte**



Customer

You wanted
what?



Supplier

*(that's not what they
asked for?!)*

Oh, and make it a

venti



Customer

That wasn't in the

spec



Supplier

Well that's what I
meant; you're
the experts



Customer

You didn't ... and that will
cost you more



Supplier

I'll grab the
**change
request
form**



Supplier

I'm not paying
any more; we had
a contract!



Customer

Statement of Work

Dear valued customer,

We have pleasure in providing you with the following quote related to our recent discussions.

• Total cost: £149,950

We hope it meets your needs.

Lots of love,
Your trusted supplier X

Assumptions are the mother of all ...



Statement of Work

Dear valued customer,

We have pleasure in providing you with the following quote.

- Replace system X with technology Y
- Test
- Deploy

• Total cost: £149,950

We hope it meets your needs.

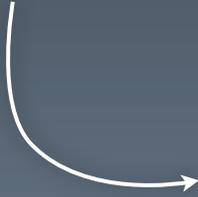
Lots of love,
Your trusted supplier X

Err ... what does system X actually do?!



That's an expensive milky coffee!

That's all very nice, and I'm sure it took a lot of internal effort, but it's meaningless without the context

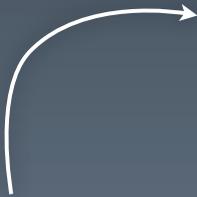


Business Requirements Document

- (1) We need a database of stuff.
- (2) That stuff includes pieces of information A, B and C.
- (3) Oh, and why not add E, F and G into the mix too if you have time.
- (4) It would be nice to have some reports for the guys upstairs; maybe between 6 and 10 would suffice.
- ...
- (99) Make sure the data is secure, so that other department can't modify our data.

Big version history showing lots of work...

Many IT projects fail because the technical requirements were not fully understood ... by anybody!

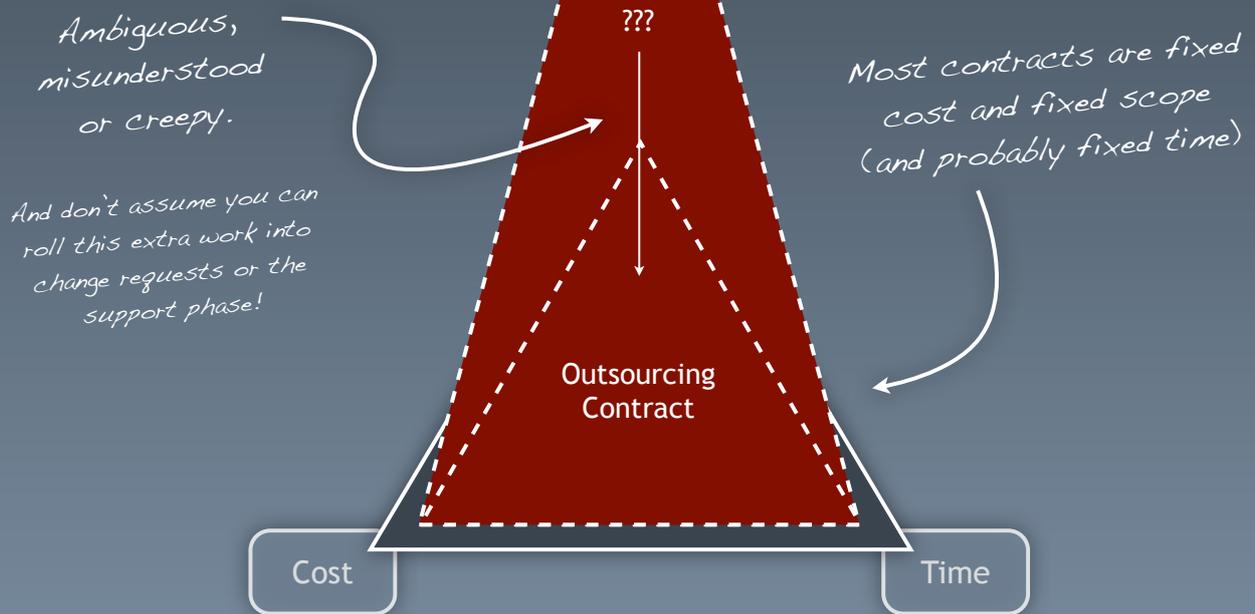


Technical Requirements Document

- (1) The system must be fast.
- (2) The system must be highly secure.
- (3) We need the system to be available 24x7.

Remainder of document is the grey text from the template this document was based upon, but nobody understood what it meant so it never got deleted...

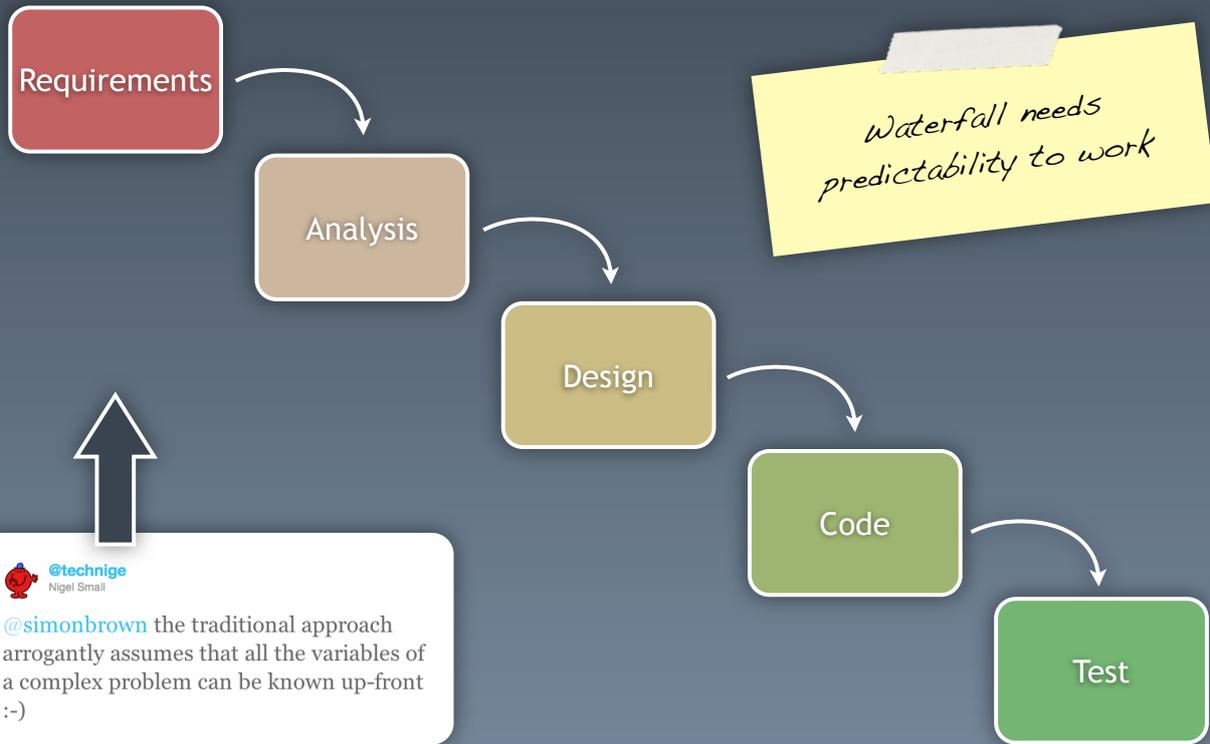
How do you get to a fixed price contract?



Some up front work is needed to
identify and **agree** the
scope of the project

*How long does that take?
Who pays for it?*

The "Waterfall" Model



[Microsoft] Project plans are often

a _____ 1

[Microsoft] Project plans are often

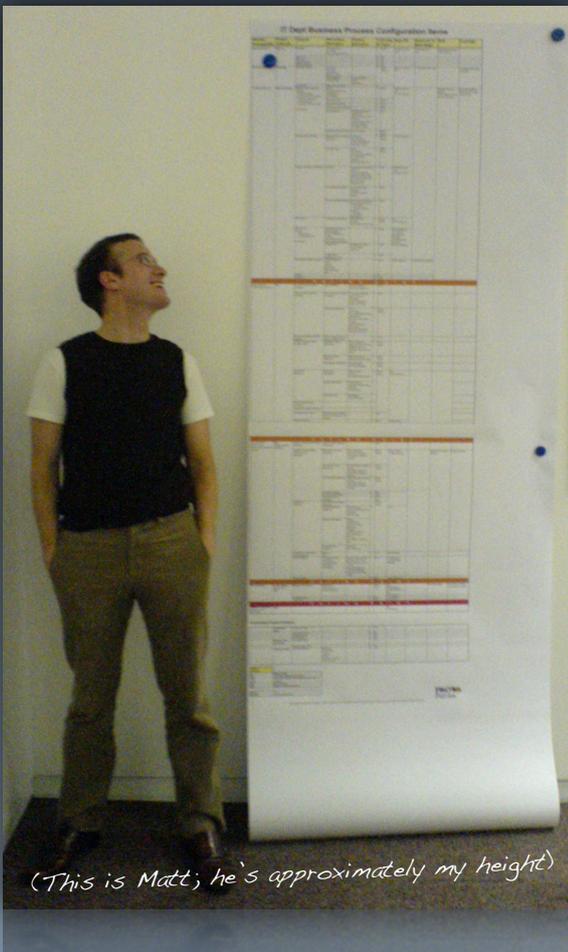
a s p i r a t i o n a l

[Microsoft] Project plans are often

o _ _ o _ d _ _ _

[Microsoft] Project plans are often

o u t o f d a t e



(This is Matt; he's approximately my height)

Having a
**project
plan**

doesn't mean that
you're doing
project management

Are we
there yet?



*This isn't project
management either :-/*

Status reports are useful but they often
don't reflect reality

Week 1

Week 2

Week 3

Week 27

Week 28



...



#epicfail

We use
PRINCE2



*"Oh, but we scale it
down of course"*

*We're running late,
but I'm sure the
other team are
behind schedule too*



We're all on track to
deliver 30th September

Us too!

*We're late, but I think
they are too; let them
break the news to the
sponsor to buy us
some more time*



Project Poker

Many organisations outsource because
**IT isn't their core
business**

*How do you effectively
manage suppliers if
this is the case?*

The **irresponsible** architect

Cross-site scripting attacks possible; weak passwords allowed; HTTP sessions didn't timeout; ...

No non-functional testing (e.g. penetration testing or load testing); ...

Basic functionality errors; little or no quality assurance; rework required late in the project because of assumptions; ...

No documentation; ...

Oh, did I mention this was supposed to be a "strategic platform"?

Cheaper is better,
right?

*If you really think this,
you should just offshore*

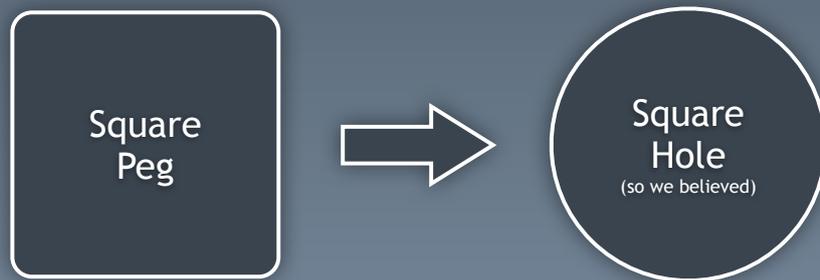
Many organisations are

reliant

on IT suppliers

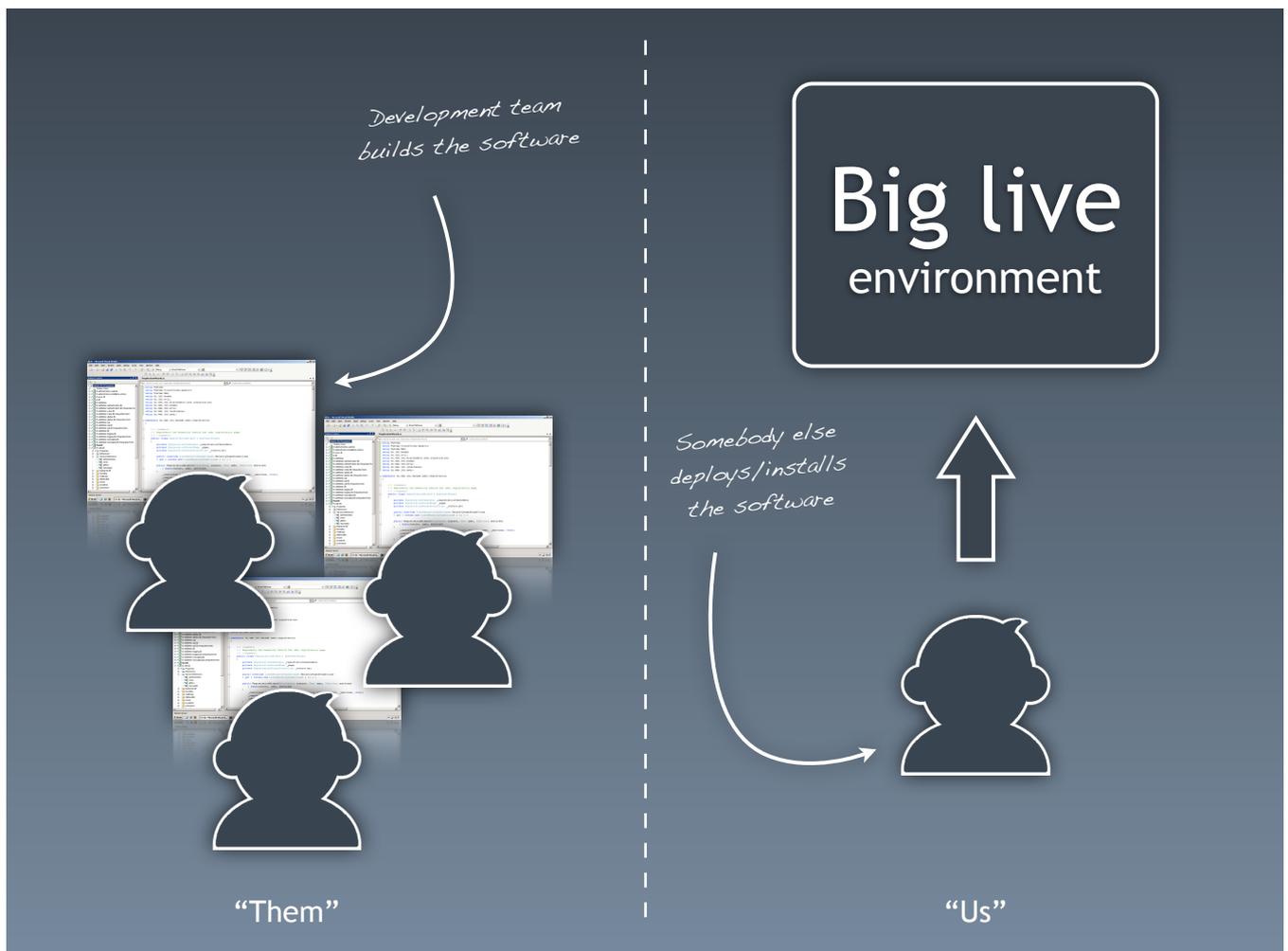
*How do they know they're
getting a good deal?*

Does the supplier have enough information about your
existing IT ecosystem?



Does your supplier know about
**your internal
policies and processes?**

“Them” and “Us” policies are often pointless



What's the incentive for quality?

*(especially if there's a long testing phase
or large maintenance contract has been agreed)*

*Internal quality
(the stuff that I teach and talk
about at conferences)*

*External quality
(it "works", look & feel, robust,
delivers value, etc)*

That's for

our eyes only

We're an
**ABC Certified
Partner**

(we got invited to their conference and we have a badge to prove it)



Supplier

*That's nice; what benefit does this actually provide YOU as a customer?
Are you looking for independent advice?*

Vendor certifications & qualifications
aren't the same as having

**real-world
experience**

*Be wary about using them
as a differentiator...*

Modern software development
practices and techniques are
not optional
for software “professionals” in 2012

We have the tools,
and we have the
talent.



Winston Zeddemore, Ghostbusters (1984)

Really? :-/

X is **broken.**

As is Y; I'll send you an e-mail.



A tester

*What happened to
defect tracking and
configuration management?*

Here's a new release; it contains
new stuff plus the
defects we fixed



Supplier

*When did
configuration management
go out of fashion?*

Hmmm ... well some of that certainly sounds familiar.

That's **just the way** that the organisation works.



Co-worker: We need to deliver this, despite being two weeks and \$2,000 over budget?

Boss: Well...

...we are where we are

URBAN
DICTIONARY

Commonly used in the business world, meaning "We are in the shit, but suck it up"...

Chapter 2

Just “Us”

Episode IV
A New Hope

Most IT projects simply do
**what they've
always done**

Most government IT therefore remains trapped in an outdated model, which attempts to lock project requirements up-front and then proceeds at a glacial pace.

The result is **repeated**
system-wide **failure.**

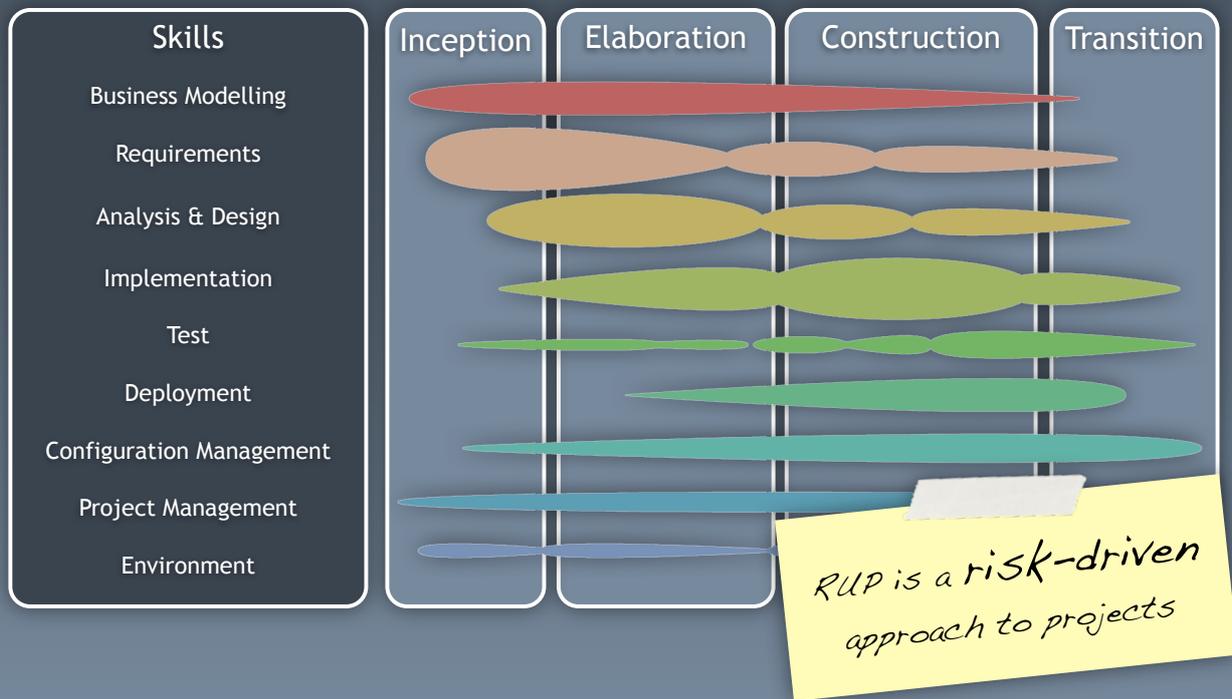


The screenshot shows the InfoQ website interface. At the top, it says "Tracking change and innovation in the enterprise software development community". The main content area features a presentation titled "Why Don't We Learn?" presented by Russ Miles on May 04, 2011. Below the title is a video player showing Russ Miles speaking. To the right of the video is a summary of the presentation, a bio of Russ Miles, and a quote from Jussi Munnonen. The website also has a sidebar with navigation links like "Register", "Login", and "Personal feed", and a "Your Communities" section with checkboxes for Java, .NET, Ruby, SOA, Agile, Architecture, and Operations. On the right side, there is an "Educational Content" section with links to articles and presentations, and an advertisement for "FREE Java Performance Tool" by AppDynamics.

Why Don't We Learn!?

<http://www.infoq.com/presentations/Why-Dont-We-Learn>

Rational Unified Process (RUP)



It's time to introduce the

A

word...

Surprisingly, this isn't
"architecture" or
"architect"! :-)

Agile

Manifesto for Agile Software Development

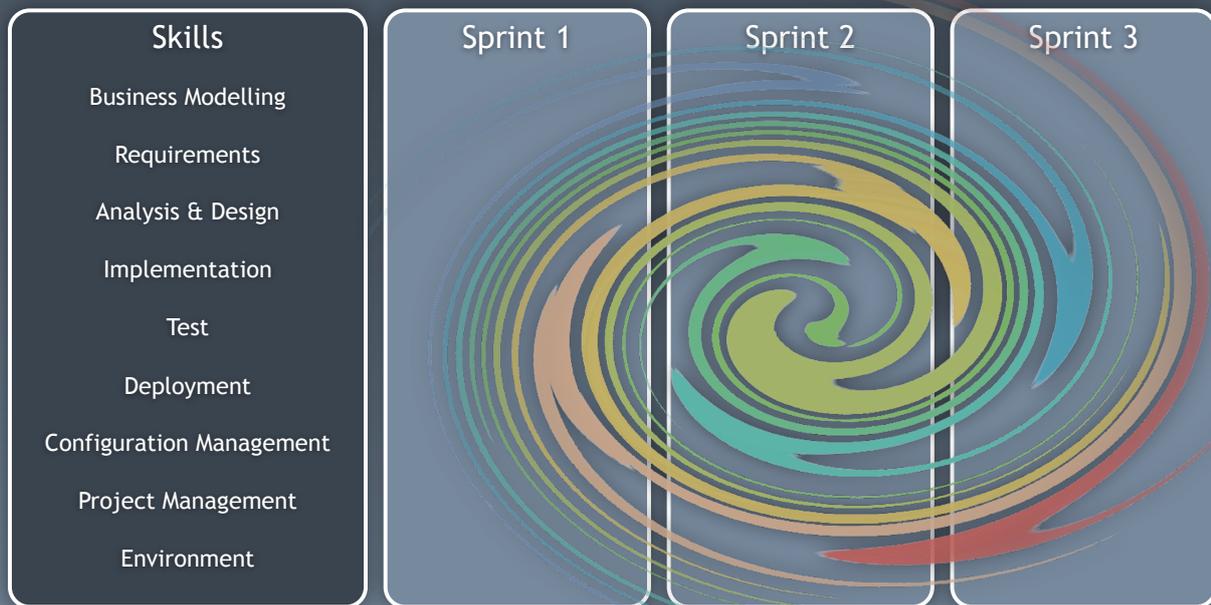
We are uncovering better ways of developing software by doing it and helping others do it.
Through this work we have come to value:

Individuals and interactions over processes and tools
Working software over comprehensive documentation
Customer collaboration over contract negotiation
Responding to change over following a plan

That is, while there is value in the items on the right, we value the items on the left more.

Kent Beck	James Grenning	Robert C. Martin
Mike Beedle	Jim Highsmith	Steve Mellor
Arie van Bennekum	Andrew Hunt	Ken Schwaber
Alistair Cockburn	Ron Jeffries	Jeff Sutherland
Ward Cunningham	Jon Kern	Dave Thomas
Martin Fowler	Brian Marick	

Agile



How much up front work do you need to do?



How much are you committing to up front?



Manifesto for Half-Arsed Agile Software Development

We have heard about new ways of developing software by paying consultants and reading Gartner reports. Through this we have been told to value:

Individuals and interactions over processes and tools

and we have mandatory processes and tools to control how those individuals (we prefer the term 'resources') interact

Working software over comprehensive documentation

as long as that software is comprehensively documented

Customer collaboration over contract negotiation

within the boundaries of strict contracts, of course, and subject to rigorous change control

Responding to change over following a plan

provided a detailed plan is in place to respond to the change, and it is followed precisely

That is, while the items on the left sound nice in theory, we're an enterprise company, and there's no way we're letting go of the items on the right.

Cobbled together one Saturday morning before breakfast by Kerry Buckley (@kerryb), following an article by Ron Jeffries and this suggestion from Eastmad.

Myth #1

Agile means up front work,
planning and documentation
aren't needed

We use a blend of
PRINCE2
and **AGILE**



Supplier

Huh, you use a what?

Myth #2

Agile is ad hoc

(yeehaw ... get me my spurs)

*Quality is an enabler,
you can't move fast
with fragile output*

We do **automated unit
testing & continuous
integration**



Supplier

*And so you should!
(goto: the slide on modern software
development practices not being optional in 2012)*

Myth #3

Using modern software
development practices
makes you agile

*They are an agile enabler
though; welcome to
2004 :-)*

Embracing change,
moving fast,
delivering value

At its most basic level, agile techniques are about becoming much more flexible, responsive to change and innovative. Development is modular and iterative, based on user involvement and feedback.

Early delivery of core working functionality is the priority.



Change

the IT model from “them and us”
to just “us”

Skills Matter : In The Brain of Linda Rising: Who do You Trust? Beware of Your Brain

call us on +44 207 183 9040 or email info@skillsmatter.com

HOME SCALA & FB JAVA .NET WEB GROOVY & GRAILS ANDROID & IOS NOSQL ARCHITECTURE AGILE & SCRUM AGILE DEVELOPER

In The Brain of Linda Rising: Who do You Trust? Beware of Your Brain

Who do You Trust? Beware of Your Brain

Cognitive scientists tell us that we are more productive and happier when our behaviour matches our brain's hard-wiring; when, what we do and why we do it matches the way we have evolved to survive over tens of thousands of years.

One problematic behaviour humans have is that we are hard-wired to instantly decide who we trust. And we generally aren't aware of these decisions—it just happens.

Linda Rising explains that this hard-wired "trust evaluation" can get in the way of working well with others.

Pairing, the daily stand-up, and close communication with the customer and others outside the team go a long way to overcome our instant evaluation of others. As Linda helps you gain a better understanding of this mechanism in your behaviour and what agile processes can do to help, you are more likely to build better interpersonal relationships and create successful products.

WANT TO LEARN MORE? THEN CHECK OUT OUR EXPERT WORKSHOPS!

Linda Rising's Fearless Change - Patterns for Introducing New Ideas

Linda Rising's Fearless Change - Patterns for Introducing New Ideas course offers proven change management strategies to help you become a more successful agent of change in your organization.

In this 1 day Fearless Change - Patterns for Introducing New Ideas course, Linda shows how the lessons from her book, Fearless Change: Patterns for Introducing New Ideas, can help you succeed. Find out more [here](#).

Kevin Henney's Agile Development for Developers

Kevin Henney's three day Agile Development for Developers course looks at the Agile principles, practices and processes that offer a path to sustainable development for individuals, teams and organisations. For many Developers who want to focus on their craft, it is sometimes difficult to get a view of Agile development that is neither focused on a project management perspective nor just on the practice of Test-Driven Development (TDD). Find out more [here](#).

Diana Larson & James Shore's Art of Agile

PODCAST WHO DO YOU TRUST? BEWARE OF YOUR BRAIN



In The Brain of Linda Rising: Who do You Trust? Beware of Your Brain - 25/05/2011

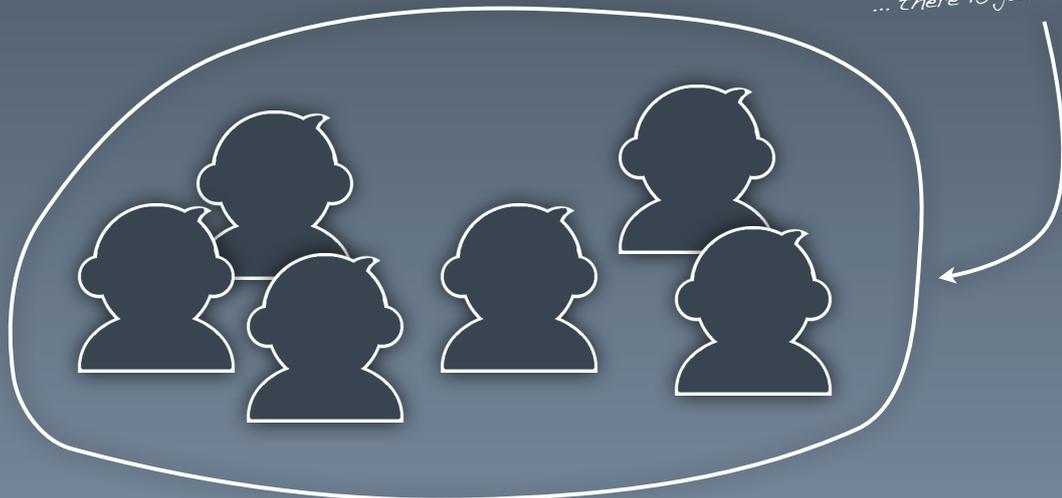
PLAY 1 second



In The Brain of Linda Rising
Who do You Trust? Beware of Your Brain
<http://skillsmatter.com/podcast/agile-scrum/who-do-you-trust-beware-of-your-brain>

Shared goals; win-win

*No more "them" and "us"
... there is just "us"*



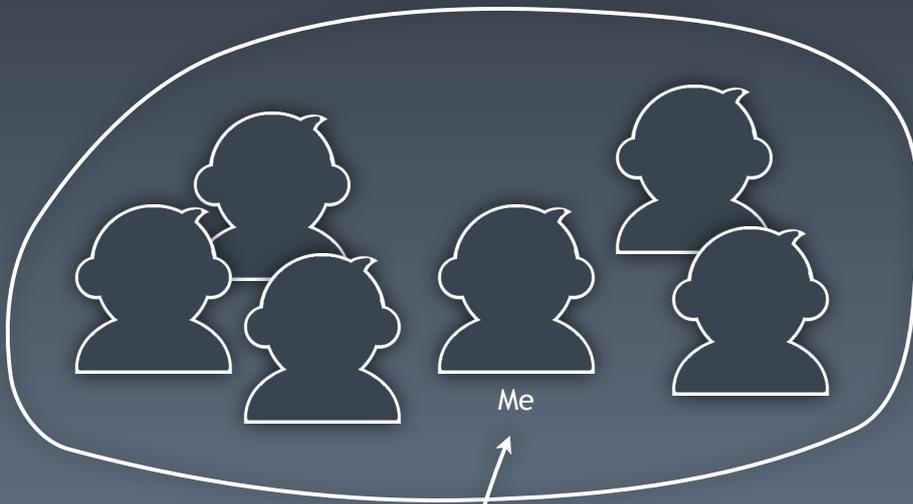
*The traditional approach:
"we want X for Y by Z"*

"Project as a Service"

vs

"Team as a Service"

*The agile approach:
"we want a team to deliver
business value, and fast"*



*A mixed customer/
supplier team
means constant cross-training and the
customer retains the ability to support/
maintain/enhance the solution*

*Do you hold external
consultants/contractors
accountable?*

Agile teams need

generalised specialists

*Jack of all trades,
master of a few*

Would *you*
hire the team?

*Agile will fail without
good people*

Why not
interview
the people doing the work?

*Many organisations regularly
screen IT staff ...
I've done my fair share of
interviews and interviewing!*

Read's comments follow the advice given by public sector IT experts that

***more money should
be spent on
in-house IT staff to
avoid project failures***

More specialist staff are needed to oversee contracts and step in before contracts go off track.

You can only get that by recognising the need for expertise in-house and not saying that we have outsourced and so we do not need those skills anymore.

Government needs more specialist IT staff, says Martin Read
<http://www.computerweekly.com/Articles/2011/03/10/245812/Government-needs-more-specialist-IT-staff-says-Martin.htm>

If you want to innovate with outsourcers you have to have a different relation and significant capacity in-house. It needs to be

***collaborative**
and flexible on both sides.*

Government needs more specialist IT staff, says Martin Read
<http://www.computerweekly.com/Articles/2011/03/10/245812/Government-needs-more-specialist-IT-staff-says-Martin.htm>

Agile requires **trust**
but gives you flexibility and
transparency

Smaller, predictable,
regular releases or
“everything” big bang at
some point in the future (hopefully)?

*You want
transparency?*

Agile focuses on delivering useable functionality quickly, rather than a 'perfect solution' late.



Agile guarantees you'll
fail faster

*Agile is not a silver bullet ...
but at least you get feedback
early and can act accordingly*

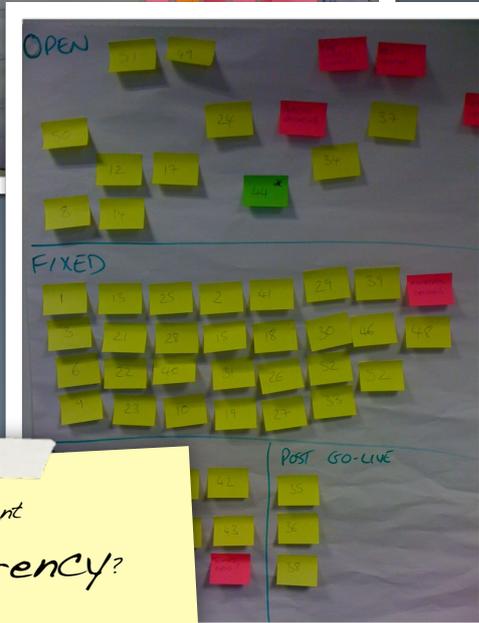
How are we doing against the budget?

How are we doing against the timescales?

Transparency

What's actually been delivered as of now?

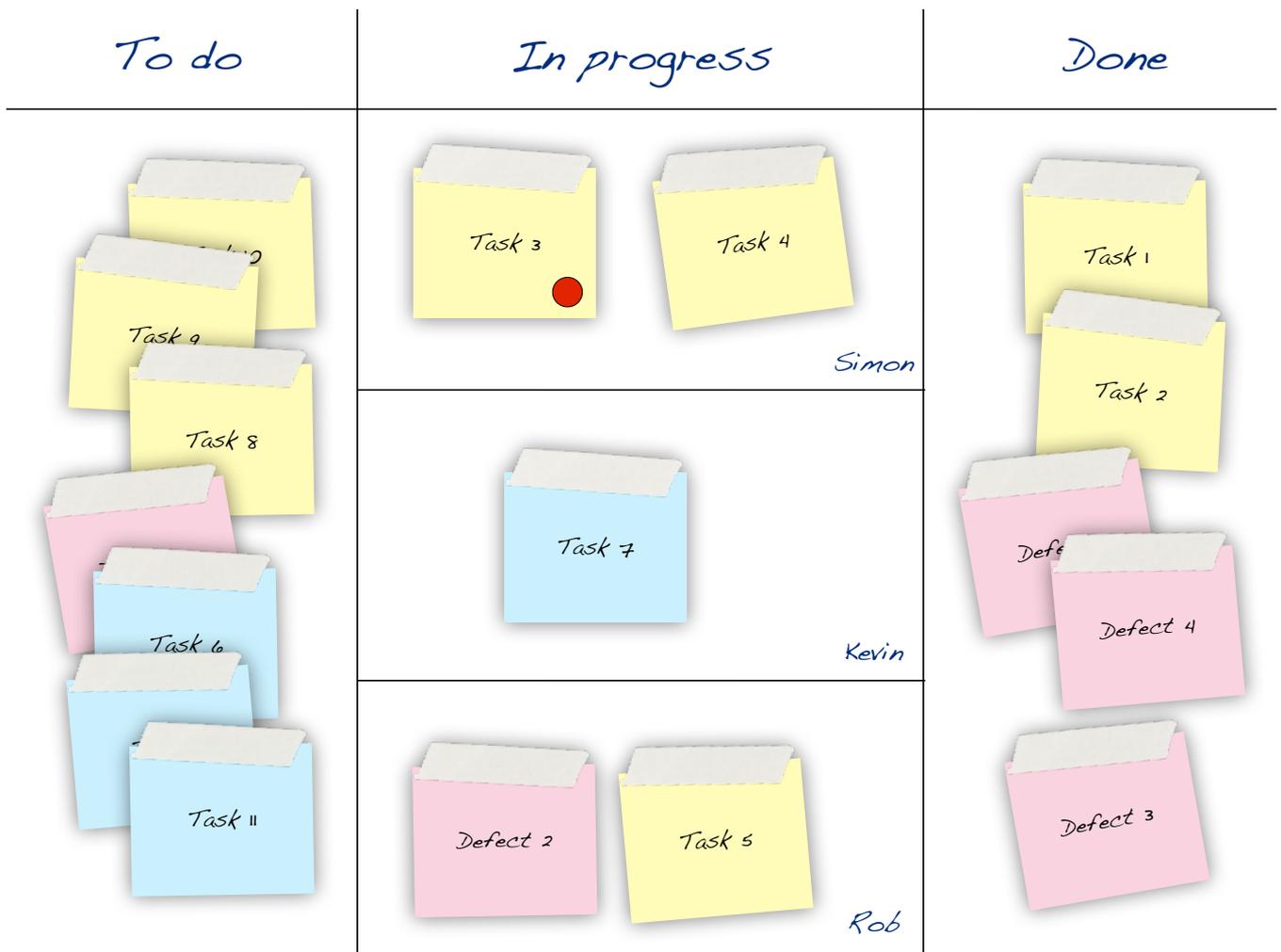
What's the quality like?
(internal and external)



You want transparency?



Lean and
Kanban
focus on flow



If the scope isn't being fixed,
**how much does
 this cost me?**

Agile Contracts

<http://www.infoq.com/articles/agile-contracts>

-
- (1) Hide it
 - (2) No cure, No pay
 - (3) Rolling contracts
 - (4) Money for nothing, Charge for Free

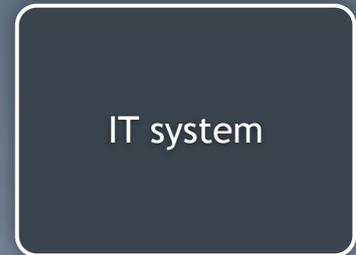
*Work is broken into
timeboxes
and managed
visually*



*Minimum viable product
followed by regular high quality releases*



Just "us"



Chapter 3

Your Future

Don't like what you see in your IT projects?

Try some

critical thinking

*Find an independent
trusted advisor*

Don't like what you see in your IT projects?

Try some

experiments

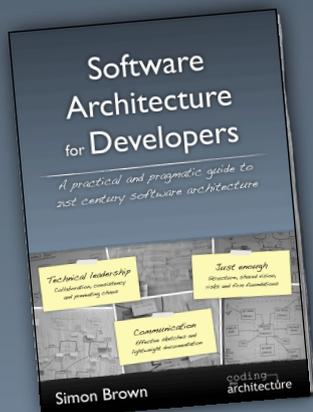
*You have options; try
something different, maybe
you'll be surprised! :-)*

*Hold retrospectives and
review feedback to
continuously improve*

IT projects; if you can't beat them,
**change the
game**



codingthearchitecture.com



leanpub.com



On-site training and consulting



simon.brown@codingthearchitecture.com

@simonbrown on Twitter