GREAT TECHNICAL ARCHITECTS MUST BE GREAT ORGANISATION ARCHITECTS

Nick Tune
@ntcoding
Software architects are being forced to adapt by evolutionary pressures in digital product development.
1. Customer Inspired
TOP SOURCES OF PRODUCT IDEAS

- DIRECT CUSTOMER FEEDBACK: 80%
- TEAM BRAINSTORMING: 64%
- SALES TEAM: 53%
- EXECUTIVE ORDER: 51%

* % respondents who agreed.  
Source: Alpha UX Product Management Insights 2017
CONTINUOUS DISCOVERY & DELIVERY

Discovery Track

Delivery Track

Cross-functional Product Team

@ntcoding
2. Infrastructure Commoditisation
Time spent on infrastructure tasks [by devs] is time taken away from feature work

— James Wen
SRE at Spotify
SPEED SERIOUSLY WINS

High performance organisations deploy to production 46x more frequently than low performers

Source: Puppet 2017 State of DevOps Report
SPEED NOT ENOUGH

...but it was **200x** in 2016 - commoditisation of infrastructure is creating a level playing field. Value is **moving up the chain**.
3. Connected Experiences
Seamless UX across many devices is a differentiator because the barrier to entry is at an unprecedented low.
THE ROLE OF THE ARCHITECT IN THE NEW WORLD?
Digital

Website
Website
Website

Business APIs
Data APIs

Enterprise IT

DATA

Back Office Apps
"The web server we will use on this project is probably older than you.

— Senior Architect"
Programmers are too slow. The industry is moving towards generic rules engines and BPM tools [that don’t need programmers].

— Chief Architect
LESSONS LEARNED

• Dependencies make continuous discovery and delivery almost impossible

• Functional silos result in backend teams who are not incentivised to solve user problems

• Architects exacerbated the problems
This new era of digital product development is a tremendous opportunity to rejuvenate the perception of architects.
Most horror stories in IT begin with the words “The Architect”
[Architects] have outdated programming knowledge, tend to complex solutions, reduce quality of decisions, secure their job and ‘justify’ their high salary.

— Andriy Solovey
@AndriySolovey
The architect role often becomes a dictator. I think the problem is terminal now - even using the term architect is so tainted it needs to be given a different name.

— Mat McLoughlin
@mat_mcloughlin
Software Architect
Sociotechnical Architect
SOCIOTECHNICAL ARCHITECTURE PATTERNS
Problem domains can be broken down into cohesive contexts that encapsulate things that change together for business reasons.
BOUNDDED CONTEXTS & DDD

Align teams with bounded contexts, and teams will have the autonomy to continuously discover and deliver.
Digital

Website

Website

Website

Enterprise IT

Business APIs

Rules, BPM, ESB

Data APIs

Back Office Apps

ntcoding
BOUNDDED CONTEXT HEURISTICS

• Linguistic patterns
• Domain expert localisation
• Data cohesion
Review
UI
API
Back Office UI

Resubmit
UI
API

Renegotiate
UI
API

Case Management
Bounded contexts are too low level - you need to understand bounded context types and patterns
PATTERN: STABLE SEQUENTIAL PROCESS

Review → Resubmit → Renegotiate
Bounded context patterns show which teams need to be more closely aligned & with common goals
PATTERN: PARTNERSHIP CONTEXT

Discovery

- Search
- Catalogue
- Downloads
OTHER SOCIOTECHNICAL PATTERNS

- Octopus context
- Centralised expertise
- Bubble context
- Discovery context
- Lots more…
Architects can lead the discovery and documentation of sociotechnical architecture patterns - especially at scale
ARCHITECTING THE SYSTEM OF WORK
Architects design for compile time and runtime - **flow** (of work) is not even on our radar
THEORY OF CONSTRAINTS

The performance of an organisation is limited by constraints. Remove the constraints to improve performance of the organisation.
Eliyahu M. Goldratt’s THE GOAL: A Process of Ongoing Improvement
30th Anniversary Edition

Eliyahu M. Goldratt has been described by Fortune as a “guru to industry” and by Business Week as a “genius.” His book, The Goal, is a gripping, fast-paced business novel.

“Goal readers are now doing the best work of their lives.”
Success Magazine

“A factory may be an unlikely setting for a novel, but the book has been wildly effective...”
Tom Peters

Required reading for Amazon’s management.

OVER 6 MILLION COPIES SOLD!
THIRD REVISED EDITION

Eliyahu M. Goldratt’s
Introduction to The Theory of Constraints
adapted by Dwight Jon Zimmerman and Dean Motter

ntcoding
Find boundaries that eliminate constraints (the most costly bottlenecks)
SITUATIONAL AWARENESS

Use different sociotechnical architecture patterns at different stages of the product innovation lifecycle
INNOVATION PORTFOLIO

[Diagram showing the matrix of explore, exploit, sustain, retire with 'kill' in each section]
THE SOCIOTECHNICAL ARCHITECT’S TOOLBOX
EVENT STORMING

- Discover bounded contexts
- Identify bounded context patterns
- Discover bottlenecks
- Coach teams & execs
VALUE STREAM MAPPING

- Discover bottlenecks
- Quantify cost of bottlenecks
- Coach teams & execs
**CONTEXT MAPPING**

- Visualise sociotechnical architecture patterns
- Explore multiple models
- Coach teams & execs
LEAN UX

• Master continuous discovery
• Champion user needs
• Coach teams & execs
BECOMING A SOCIOTECHNICAL ARCHITECT...
Value is moving up the chain. Architecting software systems in isolation is harmful. We must adapt.
HOW TO ADAPT

• Software architect -> sociotechnical architect
• Discover and share patterns
• Dictator -> advisor/facilitator/coach
LETS REPAIR THE IMAGE OF ARCHITECTS...
MORE...

ntcoding.co.uk/workshops
ntcoding.co.uk/blog
ntcoding.co.uk/speaking

@ntcoding
/in/ntcoding