Enterprise Architecture

Building a Mobile Vision

David Hunt – DCH Technology Services
Gill Windall – University of Greenwich
What is Enterprise Architecture?
Definition

“Enterprise Architecture is the practice of applying a comprehensive and rigorous method for describing a current or future structure for an organization's processes, information systems, personnel and organizational sub-units, so that they align with the organization's core goals and strategic direction. Although often associated strictly with information technology, it relates more broadly to the practice of business optimization in that it addresses business architecture, performance management and process architecture as well.”

Wikipedia
Enterprise Architecture is evolving …

Objectives for EA:
- Ensure IT delivers best value in support of its businesses objectives and activities
- Ensure sustainability by building consensus across the organisation regarding the direction to be taken (what and how) and the value being delivered by the EA”

Outcomes - Measurement Maturity Assets and Value

Framework - Governance, Capabilities Services

Principles, Processes, Tools and Techniques

What issues does my EA address? (Outcomes)
What does my EA look like? (Framework)
How will I deliver my EA?

EA is the glue that binds the different elements of the IT organisation

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ENTERPRISE ARCHITECTURE framework

Knowledge Framework

Outcomes, Asset, Maturity and Value Models

Supporting the decision making process

Enterprise Architecture definition - content
Architecture process best practice approach

Architecture assurance – making it stick
Architecture governance – decision decisions
Architecture development - capability
Community - profession

Supporting the delivery of programmes and projects

Enterprise Architecture (TOGAF View)

Business Architecture

Information Architecture

Application Architecture

Technical Architecture
Changing Nature of EA scope

Leads to the conclusion that we need new ways to analyse and understand the complex relationships that drive the successful delivery of “strategic” IT systems.
We are dealing with complex problems; 

Take a layered approach to the EA

Requires that we understand the appropriate abstractions to be used to describe and document the EA.

Why this Enterprise Architecture (Values, Frameworks and Outcomes)

What does my EA look like? (Capabilities and Services)

How will I deliver my EA? (Structure, Processes, Tools and Techniques)

How the designed EA delivers the overall set of business objectives (including IT)

What are the components and services used to deliver the EA – Patterns, Standards, and Technologies.

Delivering the EA – methodology, tools, organisation, sourcing

Contextual

Conceptual

Logical

Physical

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Imprecision and Perspectives on Modelling Context

- In defining an EA we need to understand that this is not a precise science.
- “The IS Discipline, being a hybrid and dealing with social-technical hybrids, is hard to classify as a natural or human science”

“Business systems are analysed utilising the same means of representation as physical systems (the computer) or the quasi-mathematical abstractions of the data flows or entity-relationship graphs”

- Even though they are really hybrid systems.

Observations by C. Ciborra
The Labyrinths of Information – Challenging the Wisdom of systems
The World of Mobile

UNDERSTANDING CONTEXT
History - Smartphone

January 2007

Apple unveil the iPhone. “the most expensive phone in the world” – Steve Balmer

April 2007

Windows Mobile has 18% Market Share Q1

November 2007

Google announces Android OS for free “we have many millions of customers” – Steve Balmer

October 2008

iPhone has 13% market share, RM 15%

November 2008

Android based G1 launches.

December 2008

Microsoft kills Windows Mobile – moves to Windows Phone

Autumn 2009

RM has 20% Market Share
Nokia Symbian 44%

April 2010

Q1 2010 Android has 10% market share

Cross Platform technologies appear

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History - Smartphone

October 2010
- Windows 8 Phone announced

April 2011
- Apple largest smartphone vendor 18.6 M sales against Samsung 17.5M
- Android largest platform with 36.6% share against Symbian 27%

July 2011
- Android platform has 43% market share

September 2011
- Windows 8 Preview release

November 2011
- Android platform has 50% of smartphone market

October 2012
- Windows Phone hits the market

January 2013
- Firefox based phones announced
## Technology Map

### Technology
- Java
- Objective C
- C++
- Linux
- WebKit
- HTML5/CSS3 Javascript

### Platforms
- Symbian
- Blackberry
- Android
- iOS
- Windows 8
- Palm OS
- Bada
B2B, SAS service based offerings

Cloud and Hosting Services

Can’t put everything everywhere

BYOD/CYOD

Device Convergence

IT Engineering

Hyperconnected individual

Brand Image

Cost/Time

Customer Mash-up’s and Device Centred Views

New Lean Connected Processes

Trust/ Shared Spaces

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For those of you who are thinking your organisation needs to watch for ROI (Return on Investment) to be demonstrated first or that maybe you’ll be a fast follower, think of this:

“If it takes just months now for new emergent technologies to insert themselves into the mainstream and change behaviour, and if you’ve got a 12–24 month development and deployment cycle (typical of most banks’ IT departments)—you’ll be at least three to four years behind if you wait to see someone else’s ROI demonstrated before you commit. Three to four years is the time it took Facebook to go from nowhere to half a billion users.”
A Thinking Framework

Utilise concepts from Ecology – in particular the relationships between communities and a habitat:

- A new habitat undergoes a number of phases of colonisation (succession) until the emergence of a dominant community creates a stable ecosystem until the next disruptive event:

- Lichens → Grasses Ferns → Scrub → Forest
- Platform/Hardware Specific programming → Higher Level-Android/Linux → Multi-Platform Abstraction-Hybrid → HTML5/CSS3?
Techno Chaos

- Highlighted by the diversity of platforms and languages
- Lack of clarity of market winners - continuing to see many new entrants
  - VHS/Betamax all over again … for those that remember
- Decision is to take a risk reduction approach in order protect investment:
  - Componentisation to reduce delivery timelines
  - HTML5/CSS3 to future proofing the delivery roadmap.
The World of Mobile

APPLYING OUR THEMES
A number of vendors are delivering common platform capabilities across a spectrum of devices. We can choose a number of architecture/design styles to leverage the available technology and programming techniques:

<table>
<thead>
<tr>
<th>Phone</th>
<th>Tablet</th>
<th>PC</th>
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<tbody>
<tr>
<td>iOS</td>
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<tr>
<td>Android</td>
<td>Android</td>
<td>Chrome/Android</td>
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<tr>
<td>Windows 8</td>
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Responsive Web Design

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Hybrid Approaches

• Phonegap – now Cordova
  – Creates embedded web view inside the application
    – HTML5/CSS3
  – Works with most common platforms

• Appcelerator’s Titanium Studio.
  – Compiles Javascript to Native code.
  – Supports most of the common platforms
Hybrid Embedded Route

Use an embedded webview utilising HTML5.

Put as much capability as is practicable into the webview.

Use as many opensource frameworks as possible:
- Cordova
- Sencha Touch

Create an architecture that can be readily ported.

Spend time on the design, don’t rush into coding.

• To componentize or not to componentize ???

– Tooling like Sencha Touch allows for the rapid creation of a mobile App.

– But – it’s “Engineered.” around the GUI so harder to achieve
Hybrid Client

The app provides the basic framework for interacting with the consumer:

1. Synchronous processes.
2. Asynchronous processes
3. Transactional processes
4. Data services

The UI framework provides the control and overall look and feel for the app.

Sits on a security capability that defines role and context for the application. Components are context aware – that is understand the device capabilities and the level of trust to decide what services they will provide.
Stretching the Technology

• To make Hybrid really work we need to create a Native quality application with HTML5/CSS3/Javascript:
  – Componentisation
  – Agile Delivery
  – Flexible Security
  – Context Aware Elements
  – Support for Client Mashups
END: QUESTIONS  ????