Architecture and Agility
Questions?

Please!
Expectations?
Session (Forum) Outline

Architecture: What is it?

Agility and Architecture

Incrementally Validating Designs

Agility, Usability and Architecture

Architects and Agility
Architecture
What the *bleep* is Architecture?
Metaphors We Live By
Metaphors We Live By
Troubles in Architecture Land

(over cost - late - dissatisfied customers)
(designeders and builders disconnected)
“Ch-Ch-Ch-Ch-Ch-Changes”

“Conserving Energy by Design”

Design/Build...

As a Full-Service Design/Build Firm, Wiegmann Associates is uniquely qualified to serve as the single point of responsibility for the design and installation of your mechanical system. From pre-construction services through system start-up and commissioning, our team of engineers, project managers, and trades craftsmen ensure the project is completed on time and on budget.

Performance Engineering - Once your requirements are identified, our engineers design a system to meet the performance standards you’ve established. We focus on providing the best system possible, while taking into account not just the initial cost, but the future cost of operating and maintaining the equipment. Delivering the best total value is what we’re all about.

Benefits of this approach include:

Single Source Responsibility - Since we are responsible for the design, installation and start-up, you have one point of contact accountable for a successful project.

Quality - Having full responsibility and total accountability for the project serves as the catalyst to ensure quality and proper system performance each time, every time.

(work end to end with clients)

(more personal satisfaction and pride)
Your Architectural Stories?

What works?  What doesn’t?
An Extreme Response

Delivery over architecture
No use before reuse
No documentation?

TDD / Refactoring
Architectural spikes
Collective ownership
and more …
Architecture
And
Agility
Agile projects lack architectural vision

Agile projects are designed one iteration at a time
Agile Realities (real quotes)

“Scrum is just a way for mgmt to ask us to get more done”

“Agile is a term given to XP so that it would be acceptable to the masses”

“Agile is now such a buzz word, it has lost its meaning so I simply don’t use it”
Cross cutting forums feed vision

Business driven designs are incrementally validated
Architectural Forums

Project (6 – 12 months)

Chartering | Roadmap

Personas
Product Backlog

Releases (1 – 3 Months)

Planning  Retrospective

Iterations (1 - 4 weeks)

Plan  Build  Reflect

Daily Standup
(SCRUM)

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Chartering a Common Vision

Chartering starts building domain language
Release Planning and Cross Cutting Concerns
Incrementally Validating Designs
Design Happens Continuously

Stand (up) and Deliver

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Design Honesty is Challenged

Tests Do Not Know How to Lie
Evolutionary Design

The following comes from a tutorial on Evolutionary Design. For Projects, it means

- Whole systems grow in stages
- System Features
  - Begin life primitively
  - Selectively become mature

For Programmers, it means

- Being Test-Driven
- Not Over-Engineering
- Refactoring to
  - Remove duplication
  - Simplify, clarify code
- Being influenced by
  - Time to Market
  - Continuous Feedback
  - High-Quality Code
- Lowering risk of modification via many automated tests

For Customers, it means

- Rapid response to changes in priorities
- Freedom to learn at each stage
- Freedom to go in new directions
- Closer contact with programmers

Evolutionary Designers

- Don’t produce rigid upfront designs
- Communicate designs efficiently
- Know when to ignore the saying “if it ain’t broke, don’t fix it”
- Are Not Phasists (i.e. don’t work in phases)

Ten Practices of Evolutionary Design

1. Rapid Return On Investment
2. Risk Reduction
3. Backtracking
4. Selective Automation
5. Team Intelligence
6. Walkthrough
7. Spanning System
8. Small Iterations
9. Multiplicity & Selection
10. Dead Reckoning

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What About Documentation?
Pragmatic Documentation Exists

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Living Documentation Lives

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Fixed Cycles (simple, powerful)

Surfacing Architectural Abstractions

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Agility

Usability

Architecture
User Centered Design

Architecture that includes people

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A New Way of Working

Create Views for:
1. Login
2. Manage (add - modify) Organizations
3. Manage (add - modify) Sites
4. Manage (add - modify) Coordinators
5. Manage (add - modify) Volunteers
6. Manage Volunteer Hours
   Add Navigation for:
7. Show sites for org
8. Show volunteers for site
9. Show coordinators for site
10. Show coordinators for org (do not do this now)
<table>
<thead>
<tr>
<th>Log in</th>
<th>sites</th>
<th>volunteer</th>
<th>Coordinators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manage Sites</td>
<td>Manage Sites</td>
<td>Organization</td>
<td></td>
</tr>
</tbody>
</table>

**Add View**

- **Filter**
  - List Coordinators
  - Default Coordinator

**Add Site**

- **Filter**
  - Name
  - Address
  - Coordinate

Manage Site
- Add Site
- Modify Site
- View Coordinators

one of these is displayed in bottom pane

Non to Coordinate
Log in

Manage Coordinators

Add Site

Add Site

Manage Coordinators:
- Add Site
- Modify Site

Words List

Add View

Filter

ADD SITE

NAME

ADDRESS

ADD

ADD SITE

NAME

ADDRESS

ADD
Manage Site
Add Volunteer
Modif Volunteer
Mgn Volunteer Hrs

sites List

ADD VIEW
FILTER
Manage Hours

ADD VOLUNTEER
NAME
ADDRESS

FILTER
NAME
ADDRESS

Volunteer Hours
Architects and Agility

(architects as guides)
Old School Architect

Pictures Over People

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One a Personal Note

Producers Guide Improvisation

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A New Metaphor

What about …

... architects as guides?
Developer Guides

Architectural Spike Service

1) Take a snapshot of code
2) Spike on solution
3) Present solution to developers
4) Work with developers to use solution
5) Iterate and improve solution
6) New tool is created for developers

Developers are the customers!
Developer Manifesto

* Exceptions
  - clean / simple code
  - don’t swallow % comment
  - only for exceptional cases

* Localization
  - Ask Andy re priority
  - keep external strings in one place

* Logging
  - Use log4NET
  - DEBUG in dev
  - INFO in test
  - ERROR in prod

Levels
- DEBUG - developer-level info - verbose
- INFO - less detailed dev-level info
- WARN - something wrong but recoverable
- ERROR - going to error page
- FATAL - system-wide; house on fire

* CI Build Server
  - Broken Build

Dev Manifesto (Coding Standards)

- Pairing
  - Start with nearly 100% pairing
  - Go solo when needed
  - Later identify solvable tasks
  - Rotate 1-2 times/day
  - Space for pair, coffee, disinfectant

- Lab
  - External monitors, shared monitor & keyboard, too

- TDD
  - Use it 100% to start

- SDD
  - Yes: determine tools

- CI
  - CC.NET

- Refactoring
  - Service to leave code as good or better than before

- Recharger
  - Development Session - short, contained
Community Guide

Connecting product owners to developers

Connecting developers and testers

Guide for young programmers

Leading by Example

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System Guide

Promoting systems thinking

Using cross iteration planning as a tool

Connect with other communities as needed

*Systems have personalities*
The Agile Architect is …

a design, builder

a guide, not a dictator

a product language builder

interested in connecting people

Could apply to the architecture?
Architecture and Agility

(what - where – when – who)
Questions?

Development Agility – Coaching Agility

david.hussman@devjam.com
www.devjam.com

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