Scrum in Practice

the art of the possible @ Wizard

Rowan Bunning
Wizard Information Services
& Software WithStyle
Overview

- Part A:
  - Scrum usage @ Wizard
  - Scrum+XP in a Nutshell

- Part B:
  - 15 minute sprint

- Part C:
  - Selling Scrum
  - Challenges
Scrum Usage @ Wizard
Wizard Information Services

- One of 5 Wizard businesses
- Smalltalk for last 10 years
- MAVIS - collection management system
  - Prestigious clients
  - User conference this month in Berlin
- Transitioned from bespoke apps to products
Scrum Usage @ Wizard

- All R&D / Product Development Projects
  - Internal Customer
  - Few fixed constraints
- EzyXML - XML editor development
- ACO - Community portal development
- WizDom2 - Software Platform development
- ICT&R - Management of IT contracting business
- Wizard Power - Solar Power R&D
- Tendering - Response preparation
- QMS, Scrum - Methodology Documentation
Why Scrum is Succeeding

- Championed by Executive Chairman
- Positive re-enforcement
- Business decision makers are empowered
- Developers are empowered
- No more BA/Architect - developer disconnect
- Smalltalk is excellent for rapid development
Who else is Using Scrum?

- Microsoft
  - .NET Platform Group
- IBM
- Google
- Yahoo!
- Federal Reserve Bank
- Oracle
- Sun Microsystems
- Siemens
- SAP
- Nokia
- BBC

- IDX GE Healthcare: 330 people, 15 apps, 1 year
- FDA-approved, life-critical software for x-rays, MRIs
- Financial payment applications
- 24x7 with 99.99999% uptime requirements
- Multi-terabyte database applications
- Biotech projects
Scrum+XP in a Nutshell
Defined vs Empirical

- Defined Process
  - Try to make reality follow an upfront plan

- Empirical Process
  - Continually inspect and adapt to the emerging reality
  - “visibility, inspection & adaptation”
Slice it like Sushimi
# Vertical slices - architecture

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **User Interface**
- **Model**
- **Middleware**
- **Database**

**Time**
...and all activities

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Testing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Coding</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Design</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Analysis</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Time
Scrum Roles

- **Product Owner** - vision, ROI, release
  - Represents customer, users
  - Makes prioritisation decisions

- **ScrumMaster** - process facilitator
  - Promotes Scrum values
  - Removed impediments
  - Chairs meetings

- **Scrum Team** - analysis, design, development, testing
  - Multi-disciplinary
  - 5 - 10 individuals
  - Self-organising
Scrum + XP

Business Focus
Prioritised Requirements
Management controls
Progress tracking
Decision-making boundaries

Pair Programming
Refactoring
TDD
Continuous Integration

Iteration planning
Daily stand-up meetings
Customer always available
Frequent small releases
Velocity is measured
Customisations at Wizard

- 2 week sprints
- 2 - 4 hours total of review and planning meetings
- Retrospectives integrated into review
- Task allocation often left open
- Testing on Development server - bugs reports from tool
- Transition to QA server - formal change tracking
Sprint Role play
Role play Outline

1. Sprint Review
2. Sprint Planning
3. Test Creation
4. Develop Implementation
5. Clarification
6. Sprint Review
<table>
<thead>
<tr>
<th>R</th>
<th>Committed Backlog Items/Tasks</th>
<th>Task Hours</th>
<th>Backlog Effort</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Sprint -- 2/1/2006 - 2/15/2006</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Create a version of ScrumWorks</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Update init script</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Create MySQL schema</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>migrate ice to mysql</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Upgrade to Java 5</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Update Cruise machine</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Update build.xml</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Update the installer</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>JBoss 4.0.2 on java 5?</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Update XDoclet</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Define API with our users</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Set up mailing list</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Discuss API with users to...</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td></td>
<td>import backlog items from Excel</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Create UI</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Import from Excel</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>API technology</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Investigate choices</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Add libraries, framework</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>prototype</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Create API prototype</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Implement something the team will need to...</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Release alpha version for api</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Deploy to a server in CA</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>1.9.0</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Multi-Select Tasks</td>
<td>13</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>Multi-Select Backlog Items Robust</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Option to word-wrap titles</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>include task description in Sprint</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>More graceful recovery from server</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Read PBIs into a release from RSS</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td></td>
<td>keep an old build running to demo</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Differentiate/Combine Wiki FAQ a...</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BUG: App is not very responsive</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BUG: cannot delete a team even 1...</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prioritize Impediments</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>131. Product Burndown PDF</td>
<td>17</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>Source field for PBIs</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>deconstruct VersionOne</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>15 minute timer in Sprint Detail WU</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BUG: sprint list on the product chart</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Increase timeout on the web client</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>R</th>
<th>Uncommitted Backlog Items/Tasks</th>
<th>Task Hours</th>
<th>Backlog Effort</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>wish list</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Probably Not Doing it</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>1.0.0</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total: 923</td>
<td>Total: 87</td>
<td>Total: 160</td>
</tr>
<tr>
<td>Pri.</td>
<td>Backlog Item</td>
<td>Task Title</td>
<td>Point Person</td>
</tr>
<tr>
<td>------</td>
<td>--------------------------</td>
<td>------------------------------------------------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td>1</td>
<td>81. Upgradable license</td>
<td>81.2 BUG: cannot upgrade to multiple scrummasters</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>81. Upgradable license</td>
<td>81.1 Test for problem</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>81. Upgradable license</td>
<td>81.3 BUG: Eric doesn’t show up in the user manager</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>81. Upgradable license</td>
<td>81.4 Create test for upgrading license</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>WebSphere support</td>
<td>Research and implement JAAS functionality</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>BUG: HTTP Status 400 -</td>
<td>Ensure this is gone after JAAS goes away</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>bug: Team member page</td>
<td>Fix it</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>88. refresh button</td>
<td>88.1 Add button and functionality</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>89. Remove names from</td>
<td>89.1 Changes for licensegenerator</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>89. Remove names from</td>
<td>89.2 Changes to LicenseLogicBean</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>89. Remove names from</td>
<td>89.3 Changes to UserManager</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>87. Annotate tasks from</td>
<td>87.1 Finalize a UI design mockup</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>87. Annotate tasks from</td>
<td>87.2 Modify JSP</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>87. Annotate tasks from</td>
<td>87.3 Server side support</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>87. Annotate tasks from</td>
<td>87.4 BUG: Hide selected flag is lost after append task</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>85. Investigate Yahoo Group Features</td>
<td>85.1 Look at the ...</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>83. Hide completed tasks</td>
<td>83.2 Hide completed task from the JSP page</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>83. Hide completed tasks</td>
<td>83.1 Hide completed tasks in Sprint Detail View</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>86. Cosmetic GUI changes</td>
<td>86.1 Vertical scroll bars go as far right as possible</td>
<td></td>
</tr>
</tbody>
</table>
Backlog

- Requirement: “Reduce repetitive moderation tasks.”

- Task: “Select feature Groups randomly.”
Role play Outline

1. Sprint Review
2. Sprint Planning
3. Test Creation
4. Develop Implementation
5. Clarification
6. Sprint Review
Pitching Scrum
Avoid Unused Features

- Sometimes: 16%
- Often: 13%
- Always: 7%
- Seldom: 19%
- Never: 45%
- Seldom or never used: 64%

Source: The Standish Group CHAOS'2000 Survey
Avoid Critical Risk Impact at end of Project

First build and deliver

Highest risk activities such as integration, system testing, load testing are tackled late

- Craig Larman
Reduce Risk Early

First build and deliver

Potential Impact of Risks being tackled

Integrate & System Test
Implement
Design
Analysis

Integrate & System Test
Implement
Design
Analysis

Integrate & System Test
Implement
Design
Analysis

Integrate & System Test
Implement
Design
Analysis

Integrate & System Test
Implement
Design
Analysis

Integrate & System Test
Implement
Design
Analysis

Integrate & System Test
Implement
Design
Analysis

All activities are tackled early

Time

- Craig Larman
Keep Cost of Change Flat

Traditional development process

Agile software engineering practices

Cost of change

% Complete
Take on Complexity... and Win!

- Increased probability of success
- Flexible response to unpredictability improves relationship between success and complexity

- Defined
- Empirical
Releasable software after every iteration

Planning is poorly informed

Development

Test as you develop

Release deadline

Release

Time saved

Wizard

Computing with a touch of Magic
Other Key Advantages

- Efficiency
- Flexibility
- Openness and Inclusive input
- Customer control
- Business value driven
- Conceptual integrity
- Built-in Risk Management
  - Early risk identification and mitigation
  - Control measures & frequent control points
- Early partial product
Challenges
Challenges

- Organisational:
  - Organisational boundaries
  - Reliance on external resources
- Conceptual:
  - Sashimi - thinking in vertical slices
- Discipline:
  - Comprehensive test coverage
  - TDD
- Integration with other practices
  - Traceability
Join us in the Scrum!
Questions?

Resources
- www.scrumalliance.org
- www.controlchaos.com
- www.mountaingoatsoftware.com