Instrumented Agile Templates

Agile Panel

NJ Spin Meeting

96 Frelinghuysen Road
Rutgers University, Piscataway, NJ

16 November 2011

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Agenda

- Scrum framework in action
- Why Scrum is extremely challenging to master
- Solutions to help master Scrum
  - 5 practice areas
  - Set of instrumented templates (27) and worksheets (12)
- Demonstrate 5 agile templates
  - Feature with tasks
  - Sprint retrospective
  - Daily Scrum
  - Capacity, Workload, Availability Tracking
  - Product backlog ordering
- Summarize the benefits of instrumented templates
Scrum Framework: In Action

3 Roles, 4 Scrum Artifacts, 5 Scrum Events

1. Product Backlog
2. Sprint Backlog
3. Daily Scrums
4. Potentially Shippable Iterations
5. Sprint Retrospective

Business Strategy
Product Envisioning
Release Planning

Feature-Driven Development

1. Sprint Planning
   Ready
2. Sprint
   2 Time-boxed Sprint
   Sprint
   N+1
   Rel. = GA
   Rel.

3. Burn-down chart

Velocity

Release 1 Rel.
Sprint 0 Rel.

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Why Scrum is Extremely Difficult to Master

• How to develop and use customized processes and practices within Scrum Framework throughout an organization in a consistent way
• How to scale up
• How not to be a Scrumbut
• How to do continuous improvements
• How not to reach wrong conclusions when Scrum fails to deliver the benefits as rapidly as you may expect
• Scrum is not a silver bullet, but it sure is a silver mirror!
## 5 Practice Areas to Support Agile/Scrum Framework

<table>
<thead>
<tr>
<th>Feature-Driven Develop</th>
<th>Quality First</th>
<th>Backlog Ordering</th>
<th>Transparency and Feedback</th>
<th>Vision, Releases, Sprints workflow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business need analysis; Feature specs; Non-functional requirements; Feature teams Prototypes; Mock-ups</td>
<td>Design review; Code review; Test case review; <strong>Layered testing</strong>: Feature Tests, Regression Tests, System tests, Acceptance tests, Beta tests; Defect management; Test-driven development</td>
<td>Business value &amp; Business risks estimation; Tech effort &amp; Tech risks estimation; Backlog ordering based on the <strong>DIVE criteria</strong>: Dependencies, Insure against Risks (Business and technical), Business Value, Estimated Effort</td>
<td>Burn-down and burn-up charts; Daily Scrums; Sprint Review; Sprint Retrospective; <strong>Daily Availability, Capacity and Workload calculator</strong></td>
<td>Product backlog; <strong>Time-boxed sprints</strong>: Sprint Backlog; Sprint planning workshop; Ready-Ready checklist; Done-Done checklist; Weekly Mini-Sprints; <strong>Scrum of Scrum</strong>; <strong>Time-boxed release cycles</strong>: Release data sheet, Release backlog, Release planning workshop; <strong>Product vision</strong>: Elevator pitch, Product brochure, Product roadmap, Trade journal review</td>
</tr>
</tbody>
</table>

### Practices
- **Core**, **Near-to-Mid Term**, **Mid-to-Long Term**
## Instrumented Templates for Agile-Scrum Framework

<table>
<thead>
<tr>
<th>Management, Product Owner</th>
<th>ScrumMaster</th>
<th>Development Team</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Business strategy:</strong> 8 templates and 8 worksheets: Mission, Vision, Strategic Objectives and Initiatives, Strategic Maps</td>
<td>Tech effort &amp; Tech risks estimation</td>
<td>Business need analysis</td>
</tr>
<tr>
<td><strong>Product vision:</strong> 4 templates and 4 worksheets</td>
<td>Daily Scrums: 2 templates</td>
<td>Feature specs and Non-functional requirements specs divided into tasks: Design, Code development, Code review, Unit testing, Test case development, Feature testing, Defect fixing, Defect verification, User documents, Acceptance testing</td>
</tr>
<tr>
<td><strong>Release plan</strong> Biz value &amp; Biz risks estimation</td>
<td>Capacity <em>Workload</em> Availability_Tracking</td>
<td>Steady pace of sprint</td>
</tr>
<tr>
<td><strong>Product backlog ordering</strong></td>
<td>Ready-Ready; Done-Done; Sprint retrospectives: 2 templates</td>
<td>Weekly Mini-Sprints</td>
</tr>
</tbody>
</table>

**27 Templates and 12 Worksheets**

**Legend**
- **A**: Agile tool
- **B**: White board, camera
- **S**: Spreadsheet
- **W**: Word
## Feature Template: Encapsulates 19 Tasks

<table>
<thead>
<tr>
<th>Development</th>
<th>Quality Assurance</th>
<th>Tech Writing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Design draft (optional)</td>
<td>8. Test case draft and finalization based on review</td>
<td>15. Tech doc draft</td>
</tr>
<tr>
<td>2. Design review (optional)</td>
<td>9. Test case review by software developer</td>
<td>16. Tech doc draft review by software developer</td>
</tr>
<tr>
<td>3. Design finalization based on review (optional)</td>
<td>10. Test environment set-up</td>
<td>17. Tech doc draft review by QA tester</td>
</tr>
<tr>
<td>6. Manual unit testing, defect fixing</td>
<td>13. Defect verification</td>
<td>Note: It is assumed that feature specification was developed and analyzed one time-box ahead.</td>
</tr>
<tr>
<td>7. Automated unit tests develop, testing, defect fixing</td>
<td>14. Acceptance testing by product owner</td>
<td></td>
</tr>
</tbody>
</table>

Note: It is assumed that feature specification was developed and analyzed one time-box ahead.
### Sprint Retrospective Template

<table>
<thead>
<tr>
<th>Product Release ID:</th>
<th>Sprint ID:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>What worked and will be continued:</strong> Top 3 factors by team consensus</td>
<td><strong>Sprint statistics:</strong> Team capacity, Initial estimated effort, Final Actual effort, Sprint Velocity</td>
</tr>
<tr>
<td><strong>What did not work, and need better solutions:</strong> Lessons learned: Top 3 factors by team consensus</td>
<td><strong>Major impediments and root causes, Action Plan Moving Forward</strong></td>
</tr>
</tbody>
</table>

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Daily Scrum Meeting: Examples and Need for Template

**Ineffective Scrum**

- What did you do since the last Scrum meeting?
  - I was busy with development
- What do you plan to do today?
  - I have a bunch of defects to fix
- What are the impediments getting in your way?
  - Too many meetings, such as this daily Scrum meeting!

**Effective Scrum**

- What did you do since the last Scrum meeting?
  - I was able to complete the implementation of US37 as planned, but could not complete all unit testing.
- What do you plan to do today?
  - Complete unit testing of US37 and fix Defects 367, 431
- What are the impediments getting in your way?
  - Awaiting clarification on US46 from Joe (analyst).
Daily Remaining Availability, Capacity and Workload Calculation

Burn-down chart

Need to track day-by-day remaining engineering capacity of the Scrum team based in individual remaining availability of each team member in the current sprint time-box
Product Backlog is **DEEP**; **DIVE** Carefully

- Detailed appropriately
- Estimated
- Emergent
- Prioritized (ordered)

Product backlog items are **linearly ordered** based on the **DIVE** criteria:

- Dependencies
- Insure against Risks: Business and technical
- Business **Value**
- Estimated **Effort**

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**INVESTED**, Fine-grained features, split, ready - ready for next Sprint

Medium-grained features, candidates for this Release

Coarse-grained features for future releases

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Summary of Instrumented Agile Templates

**Goals:**
- Avoid different flavors of agile practices with different agile projects
- Overcome difficulties in enforcing agile process compliance
- Improve productivity and support scalability of agile teams

**Our Approach:**
- Develop and use instrumented agile templates, integrated with Agile tool of your choice to drive most agile work

**Benefits:**
- Consistent use of same agile processes by all agile teams in an enterprise
- Reduction in process errors with very low process compliance overhead
- Improvement in productivity of agile teams
- Agile process improvements based on precise process measurements
- Scalable agile processes by ensuring alignment of different stakeholders
- Agile processes run smoothly so you can focus on results
Instrumented Agile Templates

For Further information, please contact:

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