Developing a Framework for Managing Change Requests through Stand-Alone Workflows

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Agenda

1. Motivation & Background
2. Related Work
3. Objective & Outcome
4. Next Steps
Motivation & Background

WorkON project
Motivation & Background

WorkON project

Issues

Unresolved: By Priority

- Blocker: 7 (3%)
- Critical: 18 (8%)
- Major: 76 (34%)
- Minor: 120 (54%)
Motivation & Background

WorkON project

Resulting in
• Unsatisfied customer
• Less usage
• More support
• Additional work
  → Migration just completed, but successor already in pipeline

Questions to ask
• What went wrong?
• What to do with the backlog?
• How to avoid a situation like this in future?

Find the root cause!
# Motivation & Background

Reasons for project failure*

<table>
<thead>
<tr>
<th>Project Impaired Factors</th>
<th>% of Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Incomplete Requirements</td>
<td>13.1%</td>
</tr>
<tr>
<td>2. Lack of User Involvement</td>
<td>12.4%</td>
</tr>
<tr>
<td>3. Lack of Resources</td>
<td>10.6%</td>
</tr>
<tr>
<td>4. Unrealistic Expectations</td>
<td>9.9%</td>
</tr>
<tr>
<td>5. Lack of Executive Support</td>
<td>9.3%</td>
</tr>
<tr>
<td>6. Changing Requirements &amp; Specifications</td>
<td>8.7%</td>
</tr>
<tr>
<td>7. Lack of Planning</td>
<td>8.1%</td>
</tr>
<tr>
<td>8. Didn’t Need It Any Longer</td>
<td>7.5%</td>
</tr>
<tr>
<td>9. Lack of IT Management</td>
<td>6.2%</td>
</tr>
<tr>
<td>10. Technology Illiteracy</td>
<td>4.3%</td>
</tr>
<tr>
<td>Other</td>
<td>9.9%</td>
</tr>
</tbody>
</table>

* Report by the Standish Group of over 365 Companies and 8000 Projects in the USA [Chaos 1995]
Motivation & Background

Reasons for project failure

- Customers are not able to form (technically) well specified requirements (especially in advance of the project and without consulting/support)
- Priorities (and thus requirements) change often
- (Internet)Technologies change fast

Solution:
- Integrate customer
- Make it less technical
- Clarify responsibilities

Combine change request management with workflows
Related work
Models for change request management

Simple models, e.g. Rajlich (1999) and Dietel (2004)

1. **Request**: Formulate the change request.
2. **Extraction**: Extract the applicable concepts from change request.
3. **Location**: Locate the concepts in the code.
4. **Actualization**: Implement the concepts explicitly and fully in new code.
5. **Incorporation**: Replace the latent concepts in the old code by program dependencies between the old and new code (“plug in” the new code).
6. **Propagation**: Propagate change through the old code and fix all inconsistencies introduced by the change.
Related work
Models for change request management

Related work

Modeling workflows

- Petri nets
- Modeling languages such as YAWL, UML, BPMN
- Encourage reuse through workflow patterns, CBR
- More flexible as constraint based
- Agile workflows
Objective & Outcome
Questions and Feedback?