The OpenOffice.org Specification Process Demystified

Christian Jansen, Jörg Sievers

Sun Microsystems
Agenda

• Why do we need specifications?
• Writing a specification
• A specification template - Why?
• Q&A
Why do we Need Specifications?
How many test cases have to be created after this change?

Negative values can now be entered here.
... Way too many
But...
At least 12 test case representatives are needed for methodical testing
Exemplary Test Case Design

<table>
<thead>
<tr>
<th>Parameter*</th>
<th>Anchor</th>
<th>Vertical</th>
<th>By</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid Classes</td>
<td>To paragraph</td>
<td>From Top</td>
<td>-2.00....24.70</td>
<td>Margin; Paragraph Text; Area; Page Text Area</td>
</tr>
<tr>
<td>Invalid Classes</td>
<td>To page; As character</td>
<td>Top; Bottom; Center</td>
<td>min_val...-2.00-;; 24.70+;....max_val</td>
<td>Entire page</td>
</tr>
</tbody>
</table>

*Preconditions: Size of frame = 5x5 cm; cm as metric; page size=A4; orientation=portrait

- To reduce the count of test cases some black-box methods (here: equivalence class partitioning with boundary value analysis) are being used.
  > Find for each equivalence class a representative test case.
  > Combine all valid classes with one invalid class.
# Test Case Representatives

<table>
<thead>
<tr>
<th>#</th>
<th>Anchor</th>
<th>Vertical</th>
<th>By</th>
<th>To</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>To paragraph</td>
<td>From Top</td>
<td>-2.0</td>
<td>Margin</td>
<td>-2.00</td>
</tr>
<tr>
<td>2</td>
<td>To character</td>
<td>From Top</td>
<td>-1.43</td>
<td>Paragraph Text</td>
<td>-1.43</td>
</tr>
<tr>
<td>3</td>
<td>To character</td>
<td>From Top</td>
<td>-0.53</td>
<td>Area</td>
<td>-0.53</td>
</tr>
<tr>
<td>4</td>
<td>To paragraph</td>
<td>From Top</td>
<td>-0.01</td>
<td>Page Text Area</td>
<td>-0.01</td>
</tr>
<tr>
<td>5</td>
<td>To page</td>
<td>From Top</td>
<td>-2.00</td>
<td>Margin</td>
<td>To=0; by=locked</td>
</tr>
<tr>
<td>6</td>
<td>As character</td>
<td>From Top</td>
<td>-2.00</td>
<td>Paragraph Text</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>To paragraph</td>
<td>Top</td>
<td>-1.01</td>
<td>Area</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>To paragraph</td>
<td>Bottom</td>
<td>-0.90</td>
<td>Page Text Area</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>To character</td>
<td>Center</td>
<td>-0.01</td>
<td>Margin</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>To paragraph</td>
<td>Top</td>
<td>-2.01</td>
<td>Margin</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>To paragraph</td>
<td>Top</td>
<td>24.71</td>
<td>Margin</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>To paragraph</td>
<td>From Top</td>
<td>-2.0</td>
<td>Entire page</td>
<td></td>
</tr>
</tbody>
</table>
More Impacts...
## Errors & Costs

<table>
<thead>
<tr>
<th>Analyze</th>
<th>Plan</th>
<th>Implementation</th>
<th>Dev. Tests</th>
<th>QA Tests</th>
<th>Customer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relative number of issues accrued</td>
<td>10%</td>
<td>40%</td>
<td>50%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Relative number of issues found</td>
<td>3%</td>
<td>5%</td>
<td>7%</td>
<td>25%</td>
<td>50%</td>
</tr>
<tr>
<td>Costs per error correction</td>
<td>500 DM</td>
<td>500 DM</td>
<td>500 DM</td>
<td>2.000 DM</td>
<td>6.000 DM</td>
</tr>
</tbody>
</table>

Errors & Efforts on OOo

- QA evaluates issue
- **Program Management** sets target
- **Developer**
  > Evaluates issue
  > Sets up workspace
  > Fixes issue
  > Builds workspaces
  > Evaluates fix
- QA evaluates fix in installation set
- **Release Engineering** integrates workspace
- QA
  > Evaluates fix on master workspace
  > Closes issue
- **Customer** installs fixed version
Conclusion

- Specifying saves your time
- You increase the product quality
- You save others' time
- You can increase test coverage systematically if needed
Writing a Specification
Todays Process

1. Start
2. i-Team Setup
3. Specification Development
4. Specification Approval
5. String Review
6. Development
7. QA
8. Documentation
9. Finish

Plan
Do
Review / Improve
Tomorrows Process
No Waterfall Model
How to Write a Specification?

- These pre-requisites are needed
  > A requirement (customer need)....
  > ... and an i-Team

- Development starts with a kickoff chat (IRC #openoffice, GAIM, ...
Kicking off a New Feature...

• Develop a common sense of the goal
  > Introduce the feature

• Nail down the priorities
  > Prioritize the sub-feature
Kicking off a New Feature...

• **Nail down the responsibilities**
  > State clearly who is responsible for what
  > Let the i-Team know who delivers what

• **Always keep the customer in mind**
  > Whether an internal stakeholder or external client, the customers satisfaction must be top priority
The Don't's in a Kickoff

• Don't:
  > **Design the feature:**
    This chat is for planning only. If there's design to be done, schedule another chat for that.
  > **Try to solve technical problems**
    Don't get bogged down in details at this first chat.
  > **No Agenda**
    As this is a planning chat, this chat needs to be prepared. Long, unproductive chats exhaust people.
Plan

- I-Team Kickoff
- Detailed feature / sub-feature planning
- First design sessions
Do

- Create prototypes
- Write specification
Review

• i-Team reviews specification
• Based on three essential rules
  > R1: Complete
  > R2: Clear
  > R3: Simple
Specification Rules

• **R1: Complete**
  First and foremost a specification has to be complete. That means all relevant aspects of a feature have to be captured.

• **R2: Clear**
  Each statement has to be unambiguously clear to Development, QA, User Experience, Documentation.

• **R3: Simple**
  Each statement shall be as short and as simple as possible.
Improve

- Reduction of defects in specification.
- Reduction of defects in implementation.
Finish

- Specification and implementation must be identical
A Specification Template - Why?
A Specification Template - Why?

• It **simplifies writing** specifications,
• It **centralizes all information**
• It gives you **clear guidance** on:
  > “**What**” belongs to a specification,
  > “**How**” to write a specification, and...
• ...It **automates common tasks** like specifying user interfaces
A Specification Template - Why?

...and thus it saves you and others time...
Issues of the Old Spec. Template

- Separation between specification template and specification guide
- No links to required companion documents
- Unnecessary sections
  > Process related aspects (e.g. i-Team approvals)
  > A motivation section, an user scenarios section, etc.
- Missing rules on how to write and read a specification
- Lack of examples
The New Specification Template

Software Specification Document

Abstract

iTeam Members

Contents

References and Reference Documents

Acronyms and Abbreviations

1 Detailed Specification

2 Migration

3 Configuration

4 File Format

5 Open Issues

Document Change History

Page 1
There is Lots More Stuff in it ...

A Help which guides you through the template

---

**Template Owner:**
Christian Jansen

**Last Template Change:**

**Status of Template:**

**Goal of this document:**
Template for OpenOffice.org software specifications

**Intended Readership:**
Specification authors, specification reviewers
(Development, Quality Assurance, User Experience Documentation)

**Send Feedback to:**
dev@specs.openoffice.org

---

**How to use this Template?**

- First, make sure your Proxy Settings are set correctly.
- Follow the guidelines described in the yellow boxes.
- Use the specification template toolbar to display help.
  - for adding a user interface element table,
  - for expanding user interface element table, or
  - for adding a table to specify the tab order

---

**The Specification Template Tool Bar**

1. Hides Help Sections
2. Shows Help Sections
3. Hides Field Shadings
4. 
5. 
6. 
7. 

---

Sun Microsystems
Abstract Section: The source for the “Guide to new features”
There is Lots More Stuff in it ...

The i-Team

<table>
<thead>
<tr>
<th>Role</th>
<th>First Name, Last Name (Initials)</th>
<th>E-Mail Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Lead</td>
<td>&lt;First Name, Last Name (Initials)&gt;</td>
<td><a href="mailto:User@openoffice.org">User@openoffice.org</a></td>
</tr>
<tr>
<td>Specification Owner</td>
<td>&lt;First Name, Last Name (Initials)&gt;</td>
<td><a href="mailto:User@openoffice.org">User@openoffice.org</a></td>
</tr>
<tr>
<td>User Experience</td>
<td>&lt;First Name, Last Name (Initials)&gt;</td>
<td><a href="mailto:User@openoffice.org">User@openoffice.org</a></td>
</tr>
<tr>
<td>Development</td>
<td>&lt;First Name, Last Name (Initials)&gt;</td>
<td><a href="mailto:User@openoffice.org">User@openoffice.org</a></td>
</tr>
<tr>
<td>Quality Assurance</td>
<td>&lt;First Name, Last Name (Initials)&gt;</td>
<td><a href="mailto:User@openoffice.org">User@openoffice.org</a></td>
</tr>
<tr>
<td>Documentation</td>
<td>&lt;First Name, Last Name (Initials)&gt;</td>
<td><a href="mailto:User@openoffice.org">User@openoffice.org</a></td>
</tr>
<tr>
<td>Other roles</td>
<td>&lt;First Name, Last Name (Initials)&gt;</td>
<td><a href="mailto:User@openoffice.org">User@openoffice.org</a></td>
</tr>
</tbody>
</table>

<State reason here, if one role is not represented in i-Team.>
## References and Reference Documents

Give references to any documentation relevant with regards to this specification.

Before writing a specification make sure that the items of the ![Specification Process Entry Check](image) have been addressed.

<table>
<thead>
<tr>
<th>Reference Document</th>
<th>Check</th>
<th>Location (URL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specification Process Entry Check</td>
<td>Failed</td>
<td>N/A</td>
</tr>
<tr>
<td>Product Requirement, RFE, issue (required)</td>
<td>Not Available</td>
<td>&lt;Please enter location here&gt;</td>
</tr>
<tr>
<td>Product Concept Document</td>
<td>Not Available</td>
<td>&lt;Please enter location here&gt;</td>
</tr>
<tr>
<td>Competitive Analysis</td>
<td>Not Available</td>
<td>&lt;Please enter location here&gt;</td>
</tr>
<tr>
<td>Test Case Specification (required)</td>
<td>Not Available</td>
<td>&lt;Please enter location here&gt;</td>
</tr>
<tr>
<td>Software Specification Rules</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>&lt;Other e.g. references to related specs&gt;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
There is Lots More Stuff in it ...

Tooling for “automatic” User Interface specification

1 Detailed Specification

<Start typing here>

Table <Table Number>: User Interface elements of Figure <Figure Number>

<table>
<thead>
<tr>
<th>#</th>
<th>Type</th>
<th>Properties</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;#&gt;</td>
<td>ComboBox</td>
<td>Control Properties</td>
<td>&lt;Yes/No&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Enabled:</td>
<td>&lt;Specify number here e.g. 20&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Max Row Count:</td>
<td>&lt;Specify number here e.g. 8&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vis. Row Count:</td>
<td>&lt;Specify item here&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Selected Item:</td>
<td>&lt;Specify string here&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tool Tip Text:</td>
<td>&lt;If needed specify string here&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A11Y Text:</td>
<td>&lt;Specify properties here&gt;</td>
</tr>
<tr>
<td></td>
<td>Slider</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Separator</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SpinField</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TextArea</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TreeControl</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TextField</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;Enter English String Here&gt;</td>
<td>&lt;Enter German String Here&gt;</td>
<td></td>
</tr>
</tbody>
</table>
There is Lots More Stuff in it ...

Concrete examples for junior specification writers

Table 1: User Interface elements of Figure 1

<table>
<thead>
<tr>
<th>#</th>
<th>Type</th>
<th>Properties</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dialog</td>
<td>Control Properties: Modal</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>State:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Closable: Yes</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Close Operation: Dispose</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Is iconifiable: No</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Is maximizable: No</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Resizable: No</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Always On Top: Yes</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>String English</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Insert Footnote</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>String German</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fußnote Einfügen</td>
<td></td>
</tr>
</tbody>
</table>
Further Information and Feedback

• Specification Project on OOo Wiki
  http://wiki.services.openoffice.org/wiki/Category:Specification

• Specification Project Website
  http://specs.openoffice.org/

• Specification Template

• Feedback
  dev@specs.openoffice.org
Thank You!

Christian Jansen, Jörg Sievers

Sun Microsystems