Manual Software Testing in Distributed Teams

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Software Project RCE

- Distributed, workflow-driven integration environment
- Open source
- Start in 2006

- Team of developers
  - ~ 4 research engineers plus students at several locations
- ~ 3 manual test sessions per year
- Period of time: 3-6 weeks
- Amount of tests: ~ 150 on multiple platforms

- Special challenge:

  *In test sessions, every developer is also a tester.*
Roles in Manual Testing

Test Manager

- plans the test sessions and leads the team through it
- gives feedback

Software Developer

- writes a set of manual tests for each newly developed features or software enhancements
- gives feedback

Software Tester

- gives feedback about the test results to the responsible developer
## Roles in Manual Testing

**Preconditions**

This test focuses on the Manage Custom Groups Dialog.

- Start an instance having several tools and workflows integrated.
- Start a network connection with several shared tools and workflows.
- Move some components to customized and predefined groups via the Palette view’s context menu.

**Steps**

<table>
<thead>
<tr>
<th>Step</th>
<th>Expected Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>The dialog is displayed as expected.</td>
</tr>
<tr>
<td></td>
<td>- The main menu (Configuration &gt; Manage Custom Palette Groups) - The main toolbar (to the right of &quot;Manage authorization groups.&quot;) - The Palette view’s context menu</td>
</tr>
<tr>
<td></td>
<td>Try out all options to open the dialog.</td>
</tr>
<tr>
<td>2.</td>
<td>The dialog behaves as expected.</td>
</tr>
<tr>
<td></td>
<td>- Add group - Add subgroup - Edit group - Delete group - Revert component</td>
</tr>
<tr>
<td></td>
<td>At the same time, check the resulting behavior of the Palette view.</td>
</tr>
<tr>
<td>3.</td>
<td>The activation is understandable.</td>
</tr>
<tr>
<td></td>
<td>Focus on the button activation in combination with multiple selections in the table.</td>
</tr>
<tr>
<td>4.</td>
<td>The Location is displayed correctly.</td>
</tr>
<tr>
<td></td>
<td>Move some remote components into other groups and change their availability in the network.</td>
</tr>
<tr>
<td></td>
<td>The availability will be updated as soon as components appear/disappear in the network.</td>
</tr>
</tbody>
</table>
Overview Tooling

- Mantis
- TestRail
- Skype
- Mattermost
Manual Testing Process

1-2 testers
2h – 8h
2 OS

1-2 testers
30 min
2 OS

1-2 testers
3-6 weeks
all supported OS

Feature 1 ➔ Pretesting 1

Feature 2 ➔ Pretesting 2

Feature 3 ➔ Pretesting 3

Issue 1 ➔ only tested by developer

Issue 2 ➔

OS: Operating System
**Test Session Process**

### Preparation of Test Session
- schedule the session
- clarify which feature will be part of the release
- create the test plan
- book the „Teamraum“ (before Corona)

### Start Test Session
- „Kick-Off“ Meeting
  - create a common mind for testing
  - remind the team of the Test Case Life Cycle

### Regular Appointments
- monitor the test progress
- check for „blind spots“
- present intermediate results
- adjust the test plan if necessary

### End Test Session
- check completeness of the test plan
- clean-up TestRail
- close test plan
- organize review process and evaluate results

### Start Test Session
- prepare virtual machines
- clarify final organization issues

### Regular Appointments
- give overview of test progress
- draw attention to critical bugs
- clarify questions

### End Test Session
- verify that all tests have been executed
- collect suggestions and ideas for future test sessions

### Start Test Session
- finalize test cases
- give a hint to important feature knowledge

### Regular Appointments
- report on the progress of bug fixes
- draw attention to tests that are ready to be retested

### End Test Session
- verify that all relevant issues have been resolved
### Overview TestRail

<table>
<thead>
<tr>
<th>Test Suites &amp; Cases</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A - Tests for 10.3 - 1 Lin + 1 Win</strong></td>
<td>Has 2 sections with 5 test cases. No active test runs.</td>
</tr>
<tr>
<td></td>
<td>Run Test</td>
</tr>
<tr>
<td><strong>A - Tests for 10.3 - Reference Platforms</strong></td>
<td>Has 2 sections with 5 test cases. No active test runs.</td>
</tr>
<tr>
<td></td>
<td>Run Test</td>
</tr>
<tr>
<td><strong>A - Tests for 11.0.0 - Reference Platforms</strong></td>
<td>Has 4 sections with 8 test cases. No active test runs.</td>
</tr>
<tr>
<td></td>
<td>Run Test</td>
</tr>
<tr>
<td><strong>B - Basic Integration Tests - 1 Windows + 1 Linux</strong></td>
<td>Has 9 sections with 24 test cases. No active test runs.</td>
</tr>
<tr>
<td></td>
<td>Run Test</td>
</tr>
<tr>
<td><strong>B - Basic Integration Tests - 1 Windows + 2 Linux (Gnome + KDE)</strong></td>
<td>Has 1 section with 6 test cases. No active test runs.</td>
</tr>
<tr>
<td></td>
<td>Run Test</td>
</tr>
</tbody>
</table>

**25 test suites and 177 cases in this project.**
Overview TestRail

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Expected Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Open the Tool Integration Wizard and create a new tool. Configure at least one property key.</td>
<td>The dialog is fully visible on your test platform. Comments can be added and are displayed correctly in the table. The titles in the table are fully visible on your test platform. If comments are not fully displayed in the table, hovering over with the mouse pointer will display the entire comment. Columns can be resized. No errors occur.</td>
</tr>
<tr>
<td>2.</td>
<td>Explore the &quot;Add...&quot;/&quot;Edit...&quot; dialog and the &quot;Property keys for group...&quot; table. - Try different configurations. - Try to do something unexpected!</td>
<td>Everything works as expected and no errors occur.</td>
</tr>
<tr>
<td>3.</td>
<td>Save and update the tool and add the tool to a workflow. Go to the Properties &gt; Configuration tab of the integrated tool. Check, that the columns of the &quot;Properties&quot; table can be resized on your platform. Check, that the comments are displayed correctly and are not editable.</td>
<td></td>
</tr>
</tbody>
</table>
Overview TestRail

Test Runs

A - Tests for 10.2.0 - Reference Platforms (Linux CentOS 8)
A - Tests for 10.2.0 - Reference Platforms (Linux Debian 10)
A - Tests for 10.2.0 - Reference Platforms (Windows 10)
A - Tests for 10.2.0 - Linux + Windows
A - Tests for 10.2.0 - Linux + Windows (Linux CentOS 8)
A - Tests for 10.2.0 - Linux + Windows (Linux Debian 10)
A - Tests for 10.2.0 - Linux + Windows (Ubuntu 18.04)
A - Tests for 10.2.0 - Linux + Windows (Windows 10)
Thanks for your attention

Questions ???

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