Combining Model-Based and Risk-Based Testing for Effective Test Case Generation

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Setting the Context

Company Profile
- 900+ Customers
- 157 Different Brands
- 145 Countries
- 100 Software Engineers
- 100 Test Engineers/ Technicians
- ~10M DTV production annually
- 5M LOC in total; ~1.5M LOC modified within 2013

Need for effective test case generation!
The Overall Approach

After the Update

<table>
<thead>
<tr>
<th># of Test Cases</th>
<th>Update Effort</th>
<th>Exec. Time</th>
<th># of Faults</th>
</tr>
</thead>
<tbody>
<tr>
<td>79</td>
<td>1 hrs</td>
<td>6 hrs</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th># of Test Cases</th>
<th>Modelling Effort (+Scripts)</th>
<th>Exec. Time</th>
<th># of Faults</th>
</tr>
</thead>
<tbody>
<tr>
<td>110</td>
<td>9 days</td>
<td>10 hrs</td>
<td>0</td>
</tr>
</tbody>
</table>