Case study: How to remove the testing bottleneck

April 2018
# Agenda

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Speakers

RENÉ HABERMANN
Senior Quality Architect

T·Systems

GUY ARIELI
CTO

experitest

T·Systems

experitest
Guided. Digital.

- T-Systems Multimedia Solutions
Digitalization and networking are changing our life, our society, our companies.

New business models are appearing. New methods of communication and collaboration are becoming established.

This evolution is generating major opportunities, but also challenges. We can guide you through the world of digital business. Guided. Digital.

The Digital Transformation
Our life in flux
Every company is a TECHNOLOGY company
## Business priorities impact development and delivery goals

<table>
<thead>
<tr>
<th>Top business priorities*</th>
<th>Corresponding AD&amp;D actions†</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grow revenue</td>
<td>Accelerate time-to-market for new product launches</td>
</tr>
<tr>
<td>71%</td>
<td>19%</td>
</tr>
<tr>
<td>Improve the experience of our customers</td>
<td>Improve the online customer experience</td>
</tr>
<tr>
<td>68%</td>
<td>43%</td>
</tr>
<tr>
<td></td>
<td>Add or improve the mobile customer experience</td>
</tr>
<tr>
<td></td>
<td>30%</td>
</tr>
</tbody>
</table>

Source: Forrester: Master DevOps For Faster Delivery Of Software Innovation, 2017
Industrial scale quality: an automated assembly line

- Constant new releases
- Consistent testing
- Reliable, comprehensive data

- ANY PLATFORM -
- ANY OS -
- ANY APP TYPE -
- ANY BROWSER -

Developer
Test engineer
DevOps engineer
5 best practices for releasing the testing bottleneck

- Simple, low maintenance test creation
- Wide technology coverage (platforms, application types, device manufacturers, OS)
- Intelligent large scale execution – as part of CI
- Rapid feedback, data based decisions
- DevOps approach – open, collaborative, automated
Agenda

01 The testing bottle neck

02 How T-Systems releases the testing bottleneck - case study

03 Demos

04 Summary & Q&A
Case Study: s.Oliver

German fashion company
Successful Webshop
Require a Shopping App
s.Oliver Fashion App
Situation and goal

**Situation**
- Existing webshop with backend
- Create native iOS and android app, connection to existing backend
- Develop agile with 2 week sprint
- After Launch:
  - New App Update About Every 4 Weeks
  - Web Shop Releases Every 2 Weeks

**QA Goal**
- Controlled QA
- Efficiency with shop releases
Goals and Approach

Deliver High Quality App
Integrate QA from beginning

Flexible and Agile
Continuous integration approach with automation and build chains

Integrate with Existing Webshop
Efficient testing on backend changes
Approach to Testing

- Collaboration with R&D for Testability
- Combination of Manual and Automated Testing
- Test on Real Devices
- Reduce Overhead Through Automation
Approach to Testing

- Collaboration with R&D for Testability
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MOBILE DEVICE CLOUD

REAL DEVICES, ACCESS WITH BROWSER OR CODE
Combination of manual and automated Testing

Manual Testing in Browser

Execution Grid for Automation

New Features

Regression
Reduce Overhead

(Heavy Use of Build Servers)

Build Apps → Deploy to Cloud → Manual Testing → Evaluate Test Results → Bug tickets

NIGHTLY
Fully automated

DAILY
Automation Approach

AUTOMATION GOALS

- Maintainable
- Reliable & Robust
- Very expressive results
- Remote

DECISIONS

- Use Java with SeeTest Automation
- Locate elements with XPath (Dev support)
- Explicit Assertions on various Levels, lot of Screenshots
- Run continuously in Build Server
- Leverage central device lab
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01 The testing bottle neck

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04 Summary & Q&A
Demo

Developing highly maintainable tests
Automation Approach

Page Object Pattern

Test Script

OS independent
Page A
Page B
79% of the Code

OS specific
Android Page A
Android Page B
21% of the Code

iOS Page A
iOS Page B
Start recording or select the first row
Demo

Continuous integration approach to test execution
Pending changes
No pending changes

Current status
Idle

Investigation
Start investigating... of current problems in this build configuration (Webinar Test)

Recent history

<table>
<thead>
<tr>
<th>Results</th>
<th>Artifacts</th>
<th>Changes</th>
<th>Started</th>
<th>Duration</th>
<th>Agent</th>
<th>Tags</th>
</tr>
</thead>
<tbody>
<tr>
<td>master</td>
<td>Tests failed: 1 (1 new), passed: 0</td>
<td>No changes</td>
<td>20 Apr 18 20:15</td>
<td>5m 25s</td>
<td>BM_TCA_15</td>
<td>None</td>
</tr>
</tbody>
</table>

Permalinks
- Latest successful build
- Latest pinned build
- Latest finished build
Testing statistics:

- **Previous Run:** 60%
- **This Run:** 80%
- **Tests Total:** 5
- **Results:**
  - 4 passed
  - 1 failed
- **Duration:** 00h 04m 10s

**Tests:**

- **Webinar/Test_Regression_Android_6_2**
- **Webinar/Test_Regression_Android_7_3**
- **Webinar/Test_Regression_Android_8_3**
- **Webinar/Test_Regression_IOS_10_2**
- **Webinar/Test_Regression_IOS_11_1**

**Failures could be mapped to:**
- 1 Exit Point
- 1 Failure Aspect

**Starts:** 20.04.2018 20:36:54
**Finish:** 20.04.2018 20:41:05
Demo

Cross Browser testing
Automation Approach
Page Object Pattern

Test Script

OS independent
- Page A
- Page B

OS specific
- Mobile Page A
- Mobile Page B
- Web Page A
- Web Page B
**Agenda**

01. The testing bottleneck

02. How T-Systems releases the testing bottleneck - case study

03. Demos

04. Summary & Q&A
5 best practices for releasing the testing bottleneck

What we did

- **Simple, low maintenance test creation** –
  - R&D involvement
  - Abstraction for code reuse
  - XPath for stable object identification

- **Wide technology coverage**
  - Abstraction for code reuse across platforms
  - Device cloud

- **Intelligent large scale execution**
  - Cross platform execution
  - Integrated with the CI build chains

- **Data driven**
  - Use of reports and data for decision making

- **DevOps approach**
  - Early consideration of QA needs
  - High level of automation
  - Frequent testing for rapid feedback
Tools used today

Test Development

SeeTestAutomation / Appium Studio

Device Cloud & Grid Execution
(mobile and web)

SeeTest Digital Assurance Platform
Get started absolutely free.
No credit card needed.

FIRST NAME
First name

LAST NAME
Last name

EMAIL ADDRESS
your@email.com

Country
Select country

PHONE
+1

PASSWORD
Enter your password

Password should contain only allowed symbols: --@#*$!%-|+$

Already have an account? Login

Signup

By signing up, you confirm that you agree to our Terms of Use.
Contact Us

Anything regarding test or dev including Mobile device cloud

RENÉ HABERMANN
Quality Architect
+49 351 2820 2193
Rene.Habermann@T-Systems.com

T-Systems

ANDRÉ HIRSCH
Lead competence center mobile test
+49 351 2820 2779
Andre.Hirsch@T-Systems.com

T-Systems
Questions?