We test mobile apps and websites. We call that crowdtesting.

Testing software the crowdsourced way – How to enhance software quality by utilizing real people and real devices

9/27/2013
## Successful with a strong technical background

<table>
<thead>
<tr>
<th>Formation</th>
<th>Business objective</th>
<th>People</th>
<th>Local coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Founded 10/2011</td>
<td>✓ Conducting of functional, exploratory and usability testing</td>
<td>✓ Head office in Munich, local offices in NL, UK and HU</td>
<td>✓ D/A/CH, NL, UK and HU</td>
</tr>
<tr>
<td>✓ Origins in the enterprise software testing market (automated testing of</td>
<td>✓ (Delivering testing services from the cloud)</td>
<td>✓ Strong experience in project management of usability and functional testing projects</td>
<td>✓ Others on request</td>
</tr>
<tr>
<td>service desks)</td>
<td></td>
<td></td>
<td>✓ Broad range of different test panels and software testers</td>
</tr>
</tbody>
</table>
Crowdsourcing is a process that involves outsourcing tasks to a distributed group of people. This process can occur both online and offline. The difference between crowdsourcing and ordinary outsourcing is that a task or problem is outsourced to an undefined public rather than a specific body, such as paid employees. \(\text{(wikipedia.com)}\).

What is Crowd testing?

Software testing / professional QA with „undefined public”?.
Organizational Blindness

Have you really tested everything?

Additional information

For the benefit of passengers using Apple iOS 6, local area maps are available from the booking office.
Device diversity

Do you really have access to every device?

[Image of a colorful diagram showing various devices and their proportions.

Dates for Web:
www.w3counter.com/globalstats.php
www.netmarketshare.com
http://gs.statcounter.com/]

Testbirds.com
Target group relevance

Do you know your target group?
Insufficient tests in practice

Time pressure, lack of detail and project prioritization

Textbook

linear development

Development → Test

or the iterative development

Development → Test → Development → Test

Reality

Development → Test

Release Date (s)

Test?
How do we end up with user issues and bugs?

QA, Market Analysis and Time Constraints

Organizational Blindness
So is everything really fine?
Unbiased users can help you test differently.

Device Diversity
Do you actually have all of these different devices ready to test?

Target Group Relevance
Target groups have different expectations and abilities.

Lack of Resources
Due to time pressure, lack of personal details and priority of other projects.
The smart solution: Crowdtesting

**Process**

1. Develop briefing
2. Selects & supports
3. Testers with own devices
4. Ensures quality
5. Reporting bugs/defects
6. Test protocols & bugs/defects
7. Creates final presentation including recommendations for action

Customer with new software

Project Manager

Crowd platform

Live tracking of the projects progress
Our Testbirds Crowd covers all terminal devices and target groups.

### Target Groups
- Different testing-experience
- Students, mothers, managers – we have them all!

### Certified Tester
- ISTQB
- CAT (Certified agile tester)
- Test manager
- Project manager

### Specialists
- IT Systems (ERP, CRM)
- eCommerce (administrators)
- Domain knowledge (medicine, sales, engineers)
- and many more...

### Terminal Devices and Systems
- All combinations of devices, browsers and operating systems
- Mobile: iOS (4, 5, 6), Android, Windows Phone (8), Blackberry OS
- Desktop: Windows, Mac OS, Linux, FF, IE, Safari, Chrome, Opera Facebook Apps, Rich Client-Applications, regular Desktop Software and many others
- Device is not under lab conditions but under real environments e.g. at home, underground, shopping...
- Testers are in different countries: D/A/CH, UK, US, NL, HU plus many more...
The options of crowdsourced testing

<table>
<thead>
<tr>
<th>IT &amp; QA</th>
<th>Design &amp; UI</th>
<th>Product management</th>
<th>Security</th>
<th>Localization</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bug testing</strong></td>
<td><strong>Usability testing</strong></td>
<td><strong>Explorative testing</strong></td>
<td><strong>Security testing</strong></td>
<td><strong>Localization testing</strong></td>
</tr>
<tr>
<td>Structured bug testing</td>
<td>Prototype test</td>
<td>Bug testing</td>
<td>Confidentiality</td>
<td>Language</td>
</tr>
<tr>
<td>(with test cases)</td>
<td>Beta test</td>
<td>Usability testing</td>
<td>Penetration test</td>
<td>Layout</td>
</tr>
<tr>
<td>Explorative bug testing</td>
<td>End-to-end test</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(with use cases)</td>
<td>Competition analysis</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Testbirds.com
How can crowd testing help? 2 examples.

<table>
<thead>
<tr>
<th>Hotel booking – Evaluation of 3 prototypes</th>
<th>eHealthplatform – End-to-end testing</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tester</strong></td>
<td><strong>Tester</strong></td>
</tr>
<tr>
<td>✓ 20 Testers</td>
<td>✓ 30 Testers (profile: 25 % female, 75 % male, 55 years and older, Type-2-diabetes mellitus)</td>
</tr>
<tr>
<td>✓ profile: 50 % female, 50 % male, 25 years and up, large cities, Smartphone)</td>
<td></td>
</tr>
<tr>
<td><strong>Devices</strong></td>
<td><strong>Devices</strong></td>
</tr>
<tr>
<td>✓ Apple iPhone 2G, 3G(S), 4(S) with iOS versions 4.x, 5.0, 5.1 und Beta 6</td>
<td>✓ Blood sugar monitoring devices</td>
</tr>
<tr>
<td>✓ Different browsers</td>
<td>✓ Tablets with Android and iOS</td>
</tr>
<tr>
<td><strong>Duration</strong></td>
<td><strong>Duration</strong></td>
</tr>
<tr>
<td>✓ 5 days</td>
<td>✓ 12 days</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td><strong>Results</strong></td>
</tr>
<tr>
<td>✓ Management summary</td>
<td>✓ Management Summary</td>
</tr>
<tr>
<td>✓ 20 detailed test reports, broad usability feedback and also an specific report stating the optimal solution</td>
<td>✓ Detailed list of all defects</td>
</tr>
<tr>
<td></td>
<td>✓ 30 detailed test reports for the eHealthplatform</td>
</tr>
</tbody>
</table>
Case Study
CeBIT2GO App

- Live version of the CeBIT App:
  - Registering process
  - Events & presentation
  - Fair guide

- 20 testers: iOS & Android

- BugAbility®

- End-to-end test with test tickets
Case Study
CeBIT2GO App – Functionality

- Various crashes
- Navigation with no content
- Several buttons without functionality
- Ticket registration not possible (!)
- English error messages

Bugs (Severity)

<table>
<thead>
<tr>
<th>Severity</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical</td>
<td>8</td>
</tr>
<tr>
<td>High</td>
<td>15</td>
</tr>
<tr>
<td>Medium</td>
<td>17</td>
</tr>
<tr>
<td>Low</td>
<td>7</td>
</tr>
</tbody>
</table>
Case Study
CeBIT2GO App – Usability

Negative feedback
	- Landing page is quite empty and not well used
	- Only very specific, no general information is available

Recommendations for action
	- Add more functionality, e.g. search functionality, news feed
	- Supplying general information
Case Study
CeBIT2GO App

- Search functionality
- General information
- Newsfeed: Twitter, heise
Comparison of QA and crowd testing: A Supplement.

- Interface tests?
- Functional tests / test cases?
- Compatibility tests?
- Security tests?
- Exploratory tests?
- Automated tests?
- Regression tests?
- Load and performance tests?
- Usability tests?
- Unit tests?

Full coverage
Partial coverage
Upshot: Crowd testing is an excellent supplement to QA.

Five statements about crowd testing:

1. Crowd testing complements “traditional” QA

2. Crowd testing provides valuable, unbiased and critical user-centric insights to applications

3. Crowd testing has to be used within well-defined testing processes

4. High flexibility, high speed and new test scenarios further improve and accelerate development

5. The Hit-it-all Approach avoids significant error caused by organizational blindness
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Just call me, if you have any questions!