Applying Open Source Methodology to IT Examinations

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Outline

- Who we are
- Why should we bother?
- How IT certifications work
- Why change the status quo?
- Design considerations
- Additional Resources
Who we are

- Registered non-profit incorporated in N.J.
- Core group of 21 members including devs from the 4 main BSD projects, trainers, sysadmins, writers, and advocates
- Advisory board of 5 senior members from the BSD community
- Hundreds of volunteer translators for 20 languages
- Over a thousand subscribers to public mailing lists
Why should we bother?

- Isn't Open Source about the code?
- Doesn't the code speak for itself?
- Aren't certifications about making a fast buck?
- Who needs a piece of paper anyways?
Why should we bother?

- Successful code has a userbase. Providing an avenue for end users, support staff, and administrators to gain and prove their skills is a good thing.

- The alternative is a primarily self-taught userbase with knowledge gaps and the perception that no qualified support channels exist.
How IT certifications work

- They are actually getting better....

- Less marketing focus

- More psychometrics and SMEs
How IT certifications work

- But still leave much to be desired....

- Post-secondary dilemma (context v.s. experience)

- Boot camp mentality (become a sysadmin in 40 hours for only $4000)
Why change the status quo?

Cost

- To the organization creating the exam
- High entry barrier
- Annual fees could be better spent elsewhere
Time to do the math:

- **Annual fee:** $75,000
- **Publication fees:** $4,000
- **Psychometric fees:** $20,000
- **SMEs:** volunteer
- **Organizational costs:** donated

How much per exam if you deliver 1000 exams that year? 500 exams? 100 exams?
Why change the status quo?

Cost

- To the testing center
- No incentive to offer exam
- No incentive for proctor honesty
- Expensive hardware requirements
- Technical skill to apply testing software and patches
<table>
<thead>
<tr>
<th>Item</th>
<th>Minimum Requirement</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>Pentium III, 1 Ghz</td>
<td>Prefer Pentium 4, 2 GHz</td>
</tr>
<tr>
<td>Operating System</td>
<td>Windows XP Professional or Windows 2000 Professional</td>
<td>Must have latest service pack applied</td>
</tr>
<tr>
<td>RAM</td>
<td>512 MB</td>
<td></td>
</tr>
<tr>
<td>Hard drive</td>
<td>4 GB free space</td>
<td>Prefer 10 GB free space wireless not supported</td>
</tr>
<tr>
<td>LAN connection</td>
<td>100 Mbps</td>
<td></td>
</tr>
<tr>
<td>Printer</td>
<td>laser quality 600 dpi with postscript support</td>
<td></td>
</tr>
<tr>
<td>Browser</td>
<td>Internet Explorer 6.0 SP2</td>
<td></td>
</tr>
</tbody>
</table>
Why change the status quo?

Cost

- To the exam candidate
- Exams range from $50 to $750 USD
- Average exam price is $150 USD
Why change the status quo?

Availability

- Not bad if you live in North America or Europe
- And speak English
- Where are the Open Source users?
Why change the status quo?

Availability

Our own surveys show largest percentage in:
- Brazil, Poland, Germany, India, and China
- Other testing organizations indicate similar geographic patterns
<table>
<thead>
<tr>
<th>Country</th>
<th>Annual GDP per capita in USD</th>
<th>Per Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil</td>
<td>5,717</td>
<td>476</td>
</tr>
<tr>
<td>Poland</td>
<td>8,890</td>
<td>740</td>
</tr>
<tr>
<td>Germany</td>
<td>35,204</td>
<td>2,933</td>
</tr>
<tr>
<td>India</td>
<td>797</td>
<td>66</td>
</tr>
<tr>
<td>China</td>
<td>2,001</td>
<td>166</td>
</tr>
</tbody>
</table>

Source: http://en.wikipedia.org/wiki/List_of_countries_by_GDP_%28nominal%29_per_capita
Why change the status quo?

Software

- Closed source, can't audit security
- Only works on proprietary, licensed systems
- No Open Source alternatives currently exist
- No choice; limited functionality
- Not available everywhere
- Limited language support (English or Japanese)
Design considerations

At the testing center:

- Minimal hardware requirements
- Zero dependence on software requiring separate licensing
- Zero skill from proctors to start testing program and download correct examination
- Security and auditing processes
Design considerations

For the testing software:

- Multi-language support
- Lockdown of software to prevent proctor or test taker cheating
- Built-in auditing mechanisms
- Extendable for different question types and hands on scenarios
Design considerations

Overall goals:

- Use Open Source components
- Release the “glue” under an Open Source license
- Don't reinvent the wheel
- Build a community
Design considerations

Overall goals:

- Resulting test delivery engine should be secure and easy to use
- Should be available in any geographic region
- Take advantage of existing proctor mechanisms (e.g. Accredited post-secondary)
Additional Resources

Publications at http://www.bsdcertification.org

- Test Delivery Survey Report
- BSD Usage Survey
- Psychometrics Explained
Additional Resources

“Why IT Certifications Suck” series at
http://blogs.ittoolbox.com/unix/bsd/archives
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