Effectively Managing Documentation for Embedded Linux™ Projects

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Embedded Linux Conference 2010
Today

1. subject for today: documentation
2. things to avoid in documentation
3. qualities of solid documentation
4. classical elements
5. readers you must satisfy
6. critical questions
7. habits for managing the process effectively
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What is documentation?

• first contact – presentation
• source of education – training
• front line of support – troubleshooting
What is documentation?

• conceptual material
• “how-to” information
• reference material
• troubleshooting
What is documentation?

communication with people who care about your project
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Two Things to Avoid

• perfection

• forgetting that your audience is people
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Qualities of **Solid** Documentation

What is not solid?

- missing *unmentioned* features (TBD is OK)
- inconsistent
- unprofessional
Qualities of Solid Documentation

- complete
- correct
- appropriate
Qualities of **Solid** Documentation

**Complete**

- covers all features, usage modes, and interfaces
- answers essential questions (what, how, where)
- consistent & professional
Qualities of **Solid** Documentation

Correct

- matches the software, hardware, or device which it targets
- logically organized
- consistent & professional
Qualities of **Solid** Documentation

Appropriate to audience

- know who the audience is
- know what they need to know
- answer their questions
- accessible
- consistent & professional
Qualities of **Solid** Documentation

What is less important?

- text format – fonts, colors…
- tools – XML, FrameMaker, nroff, Word
- delivery format – HTML, PDF, print
- perfection
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Critical Elements

• Concepts
• Tasks & Examples
• Reference
• Troubleshooting
Critical Elements

Concepts

• the Big Picture from 10,000 ft
• overview, introductory material
• brochures, white papers, web pages
• architecture guides
• focus on education
Critical Elements

Tasks & Examples

• the 10-foot overhead view
• step-by-step user & “quick-start” guides
• tutorials, training materials
• minimal cross-references
• focus on usability & consistency
Critical Elements

References

• the 0-foot view
• system reference manuals
• layout, manufacturing, API guides
• maximal cross-references
• focus on completeness
Critical Elements

Troubleshooting

• the -5 foot view, looking backward
• step-by-step diagnostics, flowcharts
• FAQs
• from the reader’s perspective
• focus on answering questions
## Critical Elements

Four-element theme is recursive:

<table>
<thead>
<tr>
<th></th>
<th>Concepts</th>
<th>Tasks &amp; Examples</th>
<th>Reference</th>
<th>Troubleshooting</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Doc set in general</strong></td>
<td>Overview &amp; Specs</td>
<td>Prog. Guides Tutorials</td>
<td>API Guides Glob. Index Search function</td>
<td>FAQs KBs</td>
</tr>
<tr>
<td><strong>Each document</strong></td>
<td>Prefatory chapters</td>
<td>“How-To” chapters</td>
<td>Appendices Index</td>
<td>Optional trouble-shooting sec.</td>
</tr>
<tr>
<td><strong>Each chapter</strong></td>
<td>Overview</td>
<td>Task and example sections</td>
<td>Cross-refs to reference documents</td>
<td>Cross-refs to related information</td>
</tr>
<tr>
<td><strong>Each individual document element</strong></td>
<td>Introduce topic, task, example</td>
<td>Step by step instructions</td>
<td>Cross-refs to reference documents</td>
<td>Cross-refs to related information</td>
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</tbody>
</table>
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Readers

• Partners
• Developers
• Internal
• End-users
• Community
Readers

Partners

• people who sell, extend, promote, or add value to your project
Readers

Developers

• people who use your project as basis for creating products of their own
Readers

Internal

• people in your organization
Readers

End-users

• people who use the end result of the above activities
  (and sometimes pay for the privilege)
Readers

Community

• people who care about your project by choice
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Critical Questions

• What is it?
• Why do I need it?
• What does it look like?
• Who’s going to make it?
• Where do I put it?
• When do I schedule it?
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7 Habits of Highly Effective...

• Habit 1: Be Proactive
• Habit 2: Begin with the End in Mind
• Habit 3: Put First Things First
• Habit 4: Think Win/Win
• Habit 5: Seek First to Understand, Then to Be Understood
• Habit 6: Synergize
• Habit 7: Sharpen the Saw
7 Habits of Highly Effective...

*abundance mentality == open source:*

“...a business concept in which a person believes there are enough resources and success to share with others, *when looking at optimistic people.*”
abundance mentality == open source:

“It is commonly contrasted with the scarcity mindset, which is founded on the idea that, given a finite amount of resources, a person must hoard their belongings and protect them from others. ”
7 Habits of Highly Effective...

*abundance mentality == open source:*

“Individuals with an abundance mentality celebrate the success of others rather than be threatened by it.”
Other Resources

- FLOSS Manuals (flossmanuals.net) - sourceforge for docs
- eLinux.org - wiki for embedded Linux
- tldp.org - The Linux Documentation Project
- Linux.com
- Your Community - for the projects you care about