Best Practices – Presentation is as Important as the Issue

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Internal Organization for Standardization (ISO), Institute of Electrical and Electronics Engineers (IEEE), and other organizations spend a lot of time and money documenting best practices to improve quality, reduce cost, and the like. Many of these best practices are ignored due to their complexity. Businesses need best practices that are easy to implement. In many cases the problem is not the best practices per se, but their presentation.

Introduction

Development of best practices is usually based on experiences and updating current standards. Formal best practice implementation begins with documenting these best practices. Thus, a "good" best practice is doable and beneficial (based on experience) and repeatable (based on documentation).

Best practices are usually documented/presented as standards, policies, procedures, checklists, and reports (e.g. ISO technical reports).

Presentation Problems

A major problem is how the best practice is presented. Poor presentation can result in best practices being ignored. Poor presentation problems include:

- COMPLEXITY. Does a best practice have to be presented in 50-plus pages? Is the presentation providing too much detail? Are only minimum mandatory requirements presented? Can "mandatory" details be replaced by guidelines in a separate document? Too much mandatory detail normally results in costly implementation, (e.g. the best practice is not feasible for small companies). Best practices need to define/explain what needs to be done. Providing an implementation example as an annex can be helpful. Providing mandatory requirement details about how to implement a best practice often results in the best practice not being feasible.

- UNDERSTANDABILITY. One of the beauties of Einstein's $E = MC^2$ is its simplicity and ease of understanding, without requiring knowledge of the details. Best practices need to use common terminology and definitions. Best practices must have a common-sense view to the implementers. To be considered for implementation, best practices should be clearly understandable to managerial and technical people.

- RIGIDITY. Best practices should be stated in a general fashion to allow for flexibility of implementation. In the worst case (e.g. complex best practices), best practices need to be tailorable and provide an easy method to show compliance (e.g. when certification is needed). Best practices need to allow for addition, deletion, and modification of requirements [1]. In some cases, tailoring and compliance statements can be used [2].

- APPLICABILITY. Best practices should be applicable across domains. This increases a best practice's usefulness by increasing its application to several business activities.

- EFFECTIVE WRITING. The computer age does not appear to have improved our writing skills. I have seen many documented best practices where the authors are so concerned about meeting deadlines and being technically correct that they ignore spelling, grammar, and writing style. These problems detract from the value of the best practices and may even reflect the problems we are having with software systems (e.g. if people cannot write documents well, they are prone to develop bad code) [3].

The ISO 9000 series is an example of best practices meeting the principles of the above list. The new ISO 9001: 2000 is attempting to improve its presentation over the current and previous versions [1]. By relying on quality manuals/plans to explain how organizations comply and implement an ISO 9000 standard (best practice), ISO allows for simplicity, ease of understanding, flexibility, and a wide application. The author believes this is a major reason for the worldwide acceptance of the ISO 9000 series.

Conclusion

When documenting best practices, remember to KISS (Keep It Simple, Stupid). What good is a best practice if its presentation makes the best practice too difficult to implement? Why not allow organizations the freedom to determine the best way to implement best practices? Finally, if needed, have a technical editor/writer look at your best practice (drafts and final) before distributing. ◆

About the Author

George Jackelen is project manager and analyst for two NASA IV&V projects. During his more than 30 years experience, he has performed software and hardware quality assurance for the Department of Defense (DoD) and industry and has developed and/or provided review comments on ISO, IEEE, DoD, and contractor standards, policies, and procedures.

He is also working on ISO projects to develop software life cycle standards and technical reports.

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References

1. ISO 9001: 2000 Quality Management Systems — Requirements (draft), March 1999.
2. IEEE/EIA 12207.0-1996, Industry Implementation of International Standard ISO/IEC 12207: 1995 Standard for Information Technology — Software Life Cycle Processes, March 1998.
3. May, Lorin, "The Key to Effective Writing and Coding: Quality Assurance," *CrossTalk*, May 1999.

Coming Events

Software Testing Analysis & Review (STAR) '99 West
Theme: Improving Software Testing and Quality Engineering Practices Worldwide
Dates: Nov. 1-5, 1999
Location: San Jose, Calif.
Sponsor: Software Quality Engineering
Topics: Specific ways to improve testing efforts and results. Field-proven techniques for testing client/server, object-oriented, global information infrastructure, and Internet applications. How to use test engineering to consistently achieve greater software quality. The best Internet/Web testing tools and how to use them effectively. How to lower development costs and boost productivity with test engineering.
Voice: 1-800-423-8378 or 904-278-0707
Fax: 904-278-4380
E-mail: sqeinfo@sqe.com

Managing Projects Well
Dates: Nov. 2-5, 1999
Location: Denver, Colo.
Sponsor: Quality Assurance Institute
Focus: This four-day seminar/workshop teaches you what you need to know to lead or be a member of a project team. It will also discuss the real world of projects and what they do not teach you in project management school.
Voice: 407-363-1111
Fax: 407-363-1112
Internet: http://www.qaiusa.com

Effective Methods of System Testing
Dates: Nov. 8-11, 1999
Location: Washington D.C. area
Sponsor: Quality Assurance Institute
Focus: This four-day seminar will enable you to effectively plan and execute software testing to validate that a system meets requirements.
Voice: 407-363-1111
Fax: 407-363-1112

Third International Software Quality Week Europe '99
Dates: Nov. 8-12, 1999
Location: Brussels, Belgium
Sponsor: Software Research Institute
Topic: The conference theme, "Lessons Learned," reflects the accomplishments of the past few years, and aims to see what can be learned from such efforts as the Y2K, Euro Conversion, the push for e-Commerce, and the widespread use of mature software quality processes.
Contact: Rita Bral
E-mail: bral@soft.com

24th Annual Software Engineering Workshop Call for Papers
Dates: Dec. 1-2, 1999
Location: Green Belt, Md.
Sponsor: NASA/Goddard Space Flight Center Software Engineering Laboratory, University of Maryland and Computer Sciences Corporation
Internet: http://sel.gsfc.nasa.gov/sew.htm

12th Annual Software Technology Conference
Theme: Software and Systems — Managing Risk, Complexity, Compatibility, and Change
Dates: Apr. 30-May 4, 2000
Location: Salt Lake City, Utah
Co-Sponsors: Air Force, Army, Navy, Marine Corps, Defense Information Systems Agency, Utah State University Extension
Co-hosted by: Ogden Air Logistics Center/CC, Air Force Software Technology Support Center
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