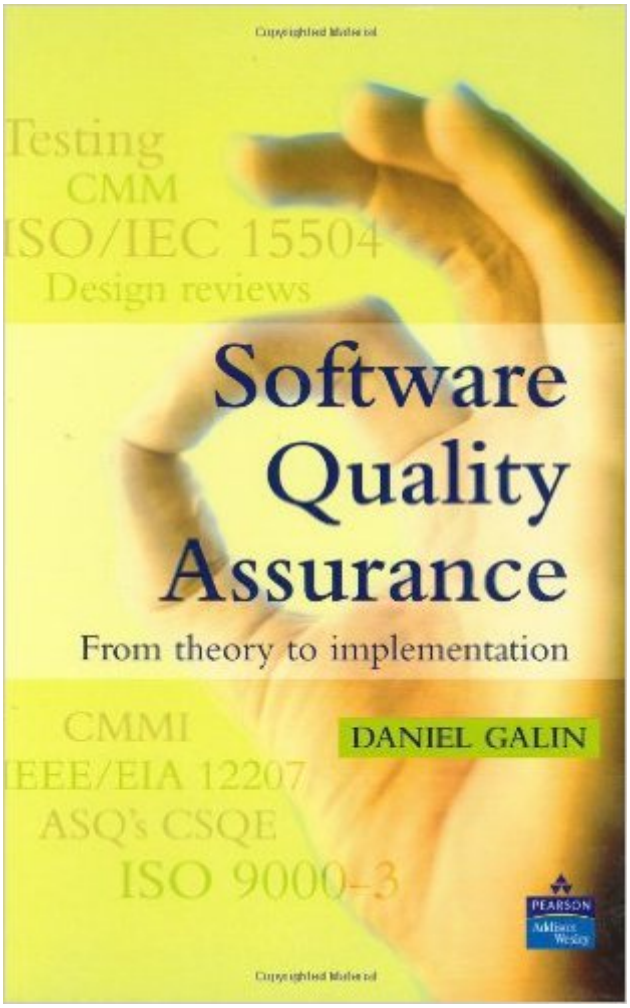
Software Quality Assurance: From Theory To Implementation



Synopsis

Software quality assurance (SQA) systems are vital for software developers in the software and the electronics industries as well as for information systems divisions in organizations.Â This book, based on many years ofÂ consulting and teaching experience, is designed to serve three audiences: students at universities and colleges, participants in vocational training courses in the industry and practitioners/professionals. Each chapter will conclude with commonly raised questions, problems, short case studies, and topics for discussion.Â The methodology to be presented in the book conforms with the requirements of ISO 9000 standards (ISO 9001 Quality Management and Quality Assurance Standard and of ISO 9000-3 Guidelines for the Application of ISO 9001 to the Development, Supply, Installation and Maintenance of Computer Software). The topics that will be covered will conform with the requirements of most vocational training programs (e.g.. the American Society for Quality's training program for Certified Software Quality Engineers).Â The book is designed to include in its appendices a collection of useful templates and checklists containing items of great interest to practitioners and students, and is accompaniedÂ by an Instructor's Solutions Manual and PowerPoint Slides.

Book Information

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Customer Reviews

Galin explains why software is usually far harder to test than hardware. The latter usually only has a few modes of operation, thousands at most. While the combinatorics of any nontrivial software

package can easily produce millions of modes. Also, hardware defects (like parts missing) are often easy to detect by visual inspection. While software is often inherently opaque. It might have a corrupted or missing module that might not be found until the customer tries to use it. This is exacerbated by bugs being found essentially mostly in development and testing. And not in manufacturing. This latter step is trivial is software, but is the key step in hardware.His book then goes over the main types of Software Quality Assurance models. These might already be familiar to you. The Waterfall model, which forms the basis of most SQA standards. But for small software projects, you might be able to use the Prototyping model, which can be faster. If you have a complex project, then maybe try the Spiral model. Here the spiral is a useful metaphor that indicates a hopeful convergence of the project at the centre of a Spiral chart.Then there is the Object Oriented model. Which takes its inspiration from the rise of OO languages like C++ and Java. As you build up a library of classes, then the more useful this model becomes, at the project level.Each of the above models is concisely explained. The entire book has this flavour. With a continual emphasis on metrics, as these are crucial to permitting an objective assessment of your project. In some ways, without taking sides as to which model you might adopt, the book seems to suggest that doing the metrics may be at least as important. So that you get some tangible idea of how your project is progressing.

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