Testing IT

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An Off-the-Shelf Software Testing Process

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To Francesca, Julie, and Valerie

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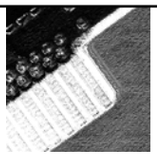


Foreword

Why is astronomy considered a science while astrology is considered only a pseudo-science? In other words, how can we prove that a theory faithfully describes reality, and that this theory can then be used to predict unknown facts? Karl Popper, the well-known philosopher, studied these problems and summarized his conclusions in one phrase: "The criterion of the scientific status of a theory is its falsability, or refutability, or testability."* For Popper, "confirming evidence should not count except when it is the result of a genuine test of the theory."

The testing process of a scientific theory is quite similar to the process of providing confirmation either to risky predictions or to attempts to falsify that theory. Testing is a complex activity. It has to simultaneously bear in mind the theory and the external reality; it has to provide objective answers to complex questions related to our own perceptions of a rational reality.

When developing software, we follow the same thought process, since one builds an abstract model between the external world and the user. In our software, we define strict processes that will guide our actions, and we build the data we want to manipulate in complex databases and templates.

Can we test our software with Popper's principles in mind? The answer is definitively yes, because software testing should not only be a confirmation that the application is working correctly but also that it will react correctly when unexpected conditions occur. This constant and complex relationship between the software one tests and external reality should guide testers in their daily work.

Although testing is usually perceived as a necessity in software development, it is rarely applied as a rigorous activity. Within many projects, testing is simply omitted; in others, it is executed with the distinct intent to prove that the application performs correctly under test conditions.

After reading John Watkins's *Testing IT* you will be convinced that testing is not as complex as it seems and that it can be managed like any other development activity.

The first thing you notice in reading *Testing IT* is that John puts the accent on testing processes and real-world case studies, which are, in my opinion, the most important aspects of software testing, implicitly applying Popper's conclusions.

Testing IT is divided into three logical, distinct parts: Part 1 focuses on traditional testing processes. Although technology is evolving at lightening speed, processes remain. They become even more important because they are at the heart of any activity. You will find this part very useful since it presents the testing phases starting from unit testing up to regression testing in the order found on all projects. Each phase is presented in the same coherent plan, facilitating access to the information.

*Karl Popper, *Conjectures and Refutations*. London: Routledge and Kegan Paul, 1963.

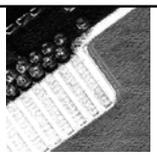
Part 2 gives practical case studies. Five projects are reported, each enhancing a different reality; we have again the confirmation that success is always related to a correct adaptation of processes to reality.

Part 3 presents ready-to-use templates and reference documents that you can adapt to your needs and that you will find very useful in your daily testing work.

Testing IT is not just another book on testing. It is, in addition, a guide for all testers who want to understand what testing is really about, and it proves once more that applying easy-to-understand processes is the key to success. In one word: indispensable.

I'm certain you will enjoy reading this book, as I did, and that you will keep it on your desk to profit in your daily work from John's rich experience.

Maurice Rozenberg, Paris
Author of *Test Logiciel* (1998, Eyrolles)



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And last but certainly not least, I would like to express my appreciation for the insight and experience of my technical reviewer Kamesh Pemmaraju and for the constant "encouragement" and guidance from my editor Lothlorién Homet.

[1]Maurice tells me (winking) that this is the only French text on testing because the French do not make mistakes, so why would they need to test anything?

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