



Springer books available as

 Printed book

Available from springer.com/shop

 eBook

Available from your library or
► springer.com/shop

 MyCopy

Printed eBook for just
► € | \$ 24.99
► springer.com/mycopy

The Fraunhofer IESE Series on Software and Systems Engineering

Series Editors: D. Rombach, P. Liggesmeyer

Whereas software engineering has been a growing area in the field of computer science for many years, systems engineering has its roots in traditional engineering. On the one hand, we still see many challenges in both disciplines. On the other hand, we can observe a trend to build systems that combine software, microelectronic components, and mechanical parts. The integration of information systems and embedded systems leads to so-called cyber-physical systems.

Software and systems engineering comprise many aspects and views. From a technical standpoint, they are concerned with individual techniques, methods, and tools, as well as with integrated development processes, architectural issues, quality management and improvement, and certification. In addition, they are also concerned with organizational, business, and human views. Software and systems engineering treat development activities as steps in a continuous evolution over time and space.

Software and systems are developed by humans, so the effects of applying techniques, methods, and tools cannot be determined independent of context. A thorough understanding of their effects in different organizational and technical contexts is essential if these effects are to be predictable and repeatable under varying conditions. Such process-product effects are best determined empirically. Empirical engineering develops the basic methodology for conducting empirical studies, and uses it to advance the understanding for the effects of various engineering approaches.

The series presents engineering-style methods and techniques that foster the development of systems that are reliable in every aspect. All the books in the series emphasize the quick delivery of state-of-the-art results and empirical proof from academic research to industrial practitioners and students. Their presentation style is designed to enable the reader to quickly grasp both the essentials of a methodology and how to apply it successfully.

Recently published:

J. Knodel, M. Naab

Pragmatic Evaluation of Software Architectures

V. Basili, A. Trendowicz, M. Kowalczyk, J. Heidrich, C. Seaman, J. Münch, D. Rombach

Aligning Organizations Through Measurement

The GQM+Strategies Approach

A. Trendowicz

Software Cost Estimation, Benchmarking, and Risk Assessment

The Software Decision-Makers' Guide to Predictable Software Development



Submission information at the [series homepage](http://series.homepage) and springer.com/authors

Order online at springer.com ► or for the Americas call (toll free) 1-800-SPRINGER ► or email us at: customerservice@springer.com. ► For outside the Americas call +49 (0) 6221-345-4301 ► or email us at: customerservice@springer.com.