Free Download Software Product Line Engineering Foundations Book


Software product line engineering has proven to be the methodology for developing a diversity of software products and software intensive systems at lower costs, in shorter time, and with higher quality. In this book, Pohl and his co-authors present a framework for software product line engineering which they have developed based on their academic as well as industrial experience gained in projects over the last eight years. They do not only detail the technical aspect of the development, but also an integrated view of the business, organisation and process aspects are given. In addition, they explicitly point out the key differences of software product line engineering compared to traditional single software system development, as the need for two distinct development processes for domain and application engineering respectively, or the need to define and manage variability.
Software Engineering Foundations

A groundbreaking book in this field, Software Engineering Foundations: A Software Science Perspective integrates the latest research, methodologies, and their applications into a unified theoretical framework. Based on the author's 30 years of experience, it examines a wide range of underlying theories from philosophy, cognitive informatics, denotational mathematics, system science, organization laws, and engineering economics. The book contains in-depth information, annotated references, real-w...


Software Engineering: The Current Practice teaches students basic software engineering skills and helps practitioners refresh their knowledge and explore recent developments in the field, including software changes and iterative processes of software development. After a historical overview and an introduction to software technology and models, the book discusses the software change and its phases, including concept location, impact analysis, refactoring, actualization, and verification. It then...


If this book had been available to Healthcare.gov's contractors, and they read and followed its life cycle performance processes, there would not have been the enormous problems apparent in that application. In my 40+ years of experience in building leading-edge products, poor performance is the single most frequent cause of the failure or cancellation of software-intensive projects. This book provides techniques and skills necessary to implement performance engineering at the beginning of a pro...

Fundamentals of Dependable Computing for Software Engineers (Chapman & Hall/CRC Innovations in Software Engineering and Software Development Series)

Fundamentals of Dependable Computing for Software Engineers presents the essential elements of computer system dependability. The book describes a comprehensive dependability-engineering process and explains the roles of software and software engineers in computer system dependability. Readers will learn: Why dependability matters What it means for a system to be dependable How to build a dependable software system How to assess whether a software system is adequately dependable The author...


Taking a learn-by-doing approach, Software Engineering Design: Theory and Practice uses examples, review questions, chapter exercises, and case study assignments to provide students and practitioners with the understanding required to design complex software systems. Explaining the concepts that are immediately relevant to software designers, it begins with a review of software design fundamentals. The text presents a formal top-down design process that consists of several design activities with ...

Model-Driven Software Engineering in Practice (Synthesis Lectures on Software Engineering)

This book discusses how model-based approaches can improve the daily practice of software professionals. This is known as Model-Driven Software Engineering (MDSE) or, simply, Model-Driven Engineering (MDE). MDSE practices have proved to increase efficiency and effectiveness in software development, as demonstrated by various quantitative and qualitative studies. MDSE adoption in the software industry is foreseen to grow exponentially in the near future, e.g., due to the convergence of software d...
Software Product Lines

The software product line strategy has enabled many organizations to improve productivity, reduce time-to-market, and address both mass- and niche markets. A successful product line organization achieves strategic levels of architectural reuse. The topics in this book cover research related to the most important practices in a product line organization. The contributions provide experience-based knowledge about the domain and application engineering, the modeling and management of variability, a...

Software Product Lines: Practices and Patterns

Long a standard practice in traditional manufacturing, the concept of product lines is relatively new to the software industry. A software product line is a family of systems that share a common set of core technical assets, with preplanned extensions and variations to address the needs of specific customers or market segments. Software organizations of all types and sizes are discovering that when skillfully implemented, a product line strategy can yield enormous gains in productivity, qualit...

Feature-Oriented Software Product Lines

While standardization has empowered the software industry to substantially scale software development and to provide affordable software to a broad market, it often does not address smaller market segments, nor the needs and wishes of individual customers. Software product lines reconcile mass production and standardization with mass customization in software engineering. Ideally, based on a set of reusable parts, a software manufacturer can generate a software product based on the requirements ...

Antipatterns: Managing Software Organizations and People, Second Edition
(Applied Software Engineering Series)

Emphasizing leadership principles and practices, Antipatterns: Managing Software Organizations and People, Second Edition catalogs 49 business practices that are often precursors to failure. This updated edition of a bestseller not only illustrates bad management approaches, but also covers the bad work environments and cultural traits commonly found in IT, software development, and other business domains. For each antipattern, it describes the situation and symptoms, gives examples, and offers ...

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