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 covers the most common iterative processes: agile, directed, and centralized processes. The text also journeys through the software life span from the initial development of software from scratch to the final stages that lead toward software closedown.

For Professionals
The book gives programmers and software managers a unified view of the contemporary practice of software engineering. It shows how various developments fit together and fit into the contemporary software engineering mosaic. The knowledge gained from the book allows practitioners to evaluate and improve the software engineering processes in their projects.

For Instructors
Instructors have several options for using this classroom-tested material. Designed to be run in conjunction with the lectures, ideas for student projects include open source programs that use Java or C++ and range in size from 50 to 500 thousand lines of code. These projects emphasize the role of developers in a classroom-tailored version of the directed iterative process (DIP). For Students
Students gain a real understanding of software engineering processes through the lectures and projects. They acquire hands-on experience with software of the size and quality comparable to that of industrial software. As is the case in the industry, students work in teams but have individual assignments and accountability.

Software Engineering Practice Innovations Development Related Books

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...

Innovations in Computing Sciences and Software Engineering
Innovations in Computing Sciences and Software Engineering includes a set of rigorously reviewed world-class manuscripts addressing and detailing state-of-the-art research projects in the areas of Computer Science, Software Engineering, Computer Engineering, and Systems Engineering and Sciences. Topics Covered: Image and Pattern Recognition: Compression, Image processing, Signal Processing Architectures, Signal Processing for Communication, Signal Processing Implementation, Speech Compression, a...

Radical Innovations of Software and Systems Engineering in the Future
This volume contains the papers from the workshop “Radical Innovations of Software and Systems Engineering in the Future.” This workshop was the ninth in the series of Monterey Software Engineering workshops for formulating and advancing software engineering models and techniques, with the fundamental theme of increasing the practical impact of formal methods. During the last decade object orientation was the driving factor for new system solutions in many areas ranging from e-commerce to embedd...

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...
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 ...