Software Evolution and Feedback. Theory and Practice

Description: Society is becoming increasingly dependant on software at all levels of human activity. At the same time, software needs to be kept up–to–date, that is, evolved, if it is to satisfy its purpose in a changing world. However, evolution of software has long been recognized as one of the most problematic, challenging and expensive areas in the field of software engineering.

Software Evolution and Feedback is a comprehensive reference to concepts, phenomena, and techniques to assist the maintenance, management and understanding of very large and long–lived software systems. The book provides an up–to–date scientific overview of what software evolution is, shows why it is inevitable for real–world applications, how to technically and managerially deal with it, and demonstrates the role of feedback in software development and maintenance.

Read on to find out more about:

- the theoretical underpinnings and conceptual understanding of software evolution,
- how requirements change over time due to external factors,
- the characteristics of proprietary and open–source software evolution,
- the relationship between software architectures and software evolution,
- the evolution of object–oriented frameworks,
- feedback and system dynamics issues in the software process,
- the use of policies to guide software evolution,
- the role of metrics that characterise the risk of making changes and much more.

Software Evolution and Feedback will provide practitioners and managers in the software industry, as well as academics, graduate students and researchers in the area of software engineering, with sound scientific insight into software evolution and feedback.

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