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Nota di contenuto	SOFTWARE EVOLUTION AND FEEDBACK; Contents; Foreword; Preface; Acknowledgements; Editors' Biographies; List of Contributors; PART ONE SOFTWARE EVOLUTION; 1 Software Evolution; 1.1 Introduction; 1.1.1 Evolution; 1.1.2 Interpretation of the Term Evolution in the Context of Software; 1.2 The Evolution of Large Software Systems; 1.2.1 Early Work; 1.2.2 Large Programs; 1.3 Program Classification; 1.3.1 The SPE Program Classification Schema; 1.3.2 S-type Applications and Software; 1.3.3 E-type Applications and Software; 1.3.4 P-type Situations and Software; 1.4 The Inevitability of Evolution 1.5 Levels of Software-Related Evolution1.6 Ab Initio Implementation or Change; 1.6.1 Process Steps; 1.6.2 The LST Paradigm; 1.6.3 Phenomenological Analysis of Real-World Computer Usage; 1.6.4 Theoretical Underpinning; 1.6.5 The Value of Formalisms and of Verification; 1.6.6 Bounding; 1.6.7 The Consequence: Continual System Evolution; 1.6.8 Summary; 1.6.9 Principle of Software Uncertainty; 1.7 Software Systems Evolution; 1.7.1 Early Work; 1.7.2 FEAST; 1.7.3 The Growth Trend; 1.7.4 Evolution Drivers; 1.7.5 Relationship Between the Above Levels of Evolution; 1.7.6 Evolutionary Development

1.8 Evolution of the Application and Its Domain  
1.9 Process Evolution;  
1.9.1 Software Processes as Systems; 1.9.2 Process Improvement; 1.9.3 The Theoretical Approach; 1.9.4 Evolving Specifications; 1.9.5 The Empirical Approach; 1.9.6 Laws of Software Evolution; 1.9.7 The Ephemeral Process; 1.10 Process Model Evolution; 1.10.1 The Nature of the Software Process; 1.10.2 Process Models; 1.10.3 Software Process Models; 1.10.4 Process Improvement; 1.10.5 Links Between Process and Process Model Evolution; 1.11 Relationships Between Levels; 1.11.1 The Software/Software Process Contrast  
1.11.2 The Software Process/Process Model Contrast  
1.12 Conclusions;  
1.13 Acknowledgments; References;  
2 A Nontraditional View of the Dimensions of Software Evolution; 2.1 Introduction; 2.2 The Domains; 2.2.1 The Real World and Its Model; 2.2.2 The Model and the Derived Specification; 2.2.3 Theory; 2.3 Experience; 2.3.1 Feedback; 2.3.2 Experimentation; 2.3.3 Understanding; 2.4 Process; 2.4.1 Methods; 2.4.2 Technology; 2.4.3 Organization; 2.5 Summary; 2.6 Acknowledgments; References;  
3 IT Legacy Systems: Enabling Environments That Reduce the Legacy Problem: A Complexity Perspective  
3.1 Introduction  
3.2 The Legacy Problem; 3.2.1 Feedback; 3.2.2 Co-evolution; 3.2.3 The Social Ecosystem; 3.3 The Two Case Studies; 3.3.1 Business and Market; 3.3.2 Organisation and Management; 3.3.3 Technology; 3.3.4 Interactions between the Various Elements; 3.4 The Socio-Technical Enabling Environment; 3.4.1 The Bank's Enabling Environment; 3.4.2 The Building Society and Some Complexity Principles; 3.5 Summary and Conclusions; 3.6 Acknowledgements; References;  
4 Facets of Software Evolution; 4.1 Introduction; 4.2 What is Software?; 4.2.1 Software: A Technical Artefact  
4.2.2 Software: A Utility

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## Sommario/riassunto

Evolution of software has long been recognized as one of the most problematic and challenging areas in the field of software engineering, as evidenced by the high, often up to 60-80%, life-cycle costs attributed to this activity over the life of a software system. Studies of software evolution are central to the understanding and practice of software development. Yet it has received relatively little attention in the field of software engineering. This book focuses on topics aimed at giving a scientific insight into the aspect of software evolution and feedback. In summary, the book cover

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