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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Chapter 1 Modular Systems, Combinatorial Engineering Frameworks -- chapter 2 Methods of Morphological Design (Synthesis) -- chapter 3 Multiset Estimates and Combinatorial Synthesis -- chapter 4 Design of Hierarchical Structure -- chapter 5 System Configuration and Combinatorial Optimization -- chapter 6 System Evaluation -- chapter 7 Detection of System Bottlenecks -- chapter 8 System Improvement/Extension -- chapter 9 Aggregation of Structured Solutions -- chapter 10 Multistage Design -- chapter 11 Combinatorial Evolution and Forecasting -- chapter 12 Composite Strategy for Multicriteria Ranking -- chapter 13 Electronic Shopping of Composite Product -- chapter 14 Web-based Applied System -- chapter 15 Integrated Security System -- chapter 16 Connection of Users and

Access Points -- chapter 17 Telemetry System -- chapter 18 Standard for Multimedia Information Processing -- chapter 19 Wireless Sensor -- chapter 20 Management System for Smart Home -- chapter 21 ZigBee Communication Protocol -- Conclusion -- References -- Index.

Sommario/riassunto

This book examines seven key combinatorial engineering frameworks (composite schemes consisting of algorithms and/or interactive procedures) for hierarchical modular (composite) systems. These frameworks are based on combinatorial optimization problems (e.g., knapsack problem, multiple choice problem, assignment problem, morphological clique problem), with the author's version of morphological design approach – Hierarchical Morphological Multicritieria Design (HMMD) – providing a conceptual lens with which to elucidate the examples discussed. This approach is based on ordinal estimates of design alternatives for systems parts/components, however, the book also puts forward an original version of HMMD that is based on new interval multiset estimates for the design alternatives with special attention paid to the aggregation of modular solutions (system versions). The second part of 'Modular System Design and Evaluation' provides ten information technology case studies that enriches understanding of the design of system design, detection of system bottlenecks and system improvement, amongst others. The book is intended for researchers and scientists, students, and practitioners in many domains of information technology and engineering. The book is also designed to be used as a text for courses in system design, systems engineering and life cycle engineering at the level of undergraduate level, graduate/PhD levels, and for continuing education. The material and methods contained in this book were used over four years in Moscow Institute of Physics and Technology (State University) in the author's faculty course "System Design".