

Systems Modeling & Req. Spec.

"... one of very few books on systems and software engineering that introduces a solid and comprehensive methodology, which has been carefully worked out, has been extensively used, and has also been meticulously taught to a large number of students and engineers. ... A truly valuable contribution to the field!"

—Prof. David Harel, Faculty of Mathematics and Computer Science, The Weizmann Institute of Science, Israel

"... an innovative but mature method that covers both conceptual modeling and requirements engineering phases of embedded systems design. This technically excellent contribution offers a concurrently readable and systematic guide not only for students but also for practicing designers and systems engineers."

—Prof. Miroslav Sveda, Faculty of Information Technology Brno University of Technology, Czech Republic

"... provides a comprehensive method, bringing together a number of well-known techniques into a holistic framework. ... thorough, explains many difficult issues well, and uses modern and accessible case studies to illustrate. ... a valuable reference for both experienced and graduate engineers."

—Prof. Mike Mannion, Dean School of Computing and Mathematical Sciences Glasgow Caledonian University, Scotland

"... an excellent introduction to a model-based design method for computer-based systems. ... a comprehensive approach for modeling and analyzing heterogeneous, computer-based systems. ... an excellent source of reference for students and practitioners in this rapidly growing area."

—Janos Sztipanovitz, Director Institute for Software Integrated Systems, Vanderbilt University, United States

About the Authors



Jonah Z. Lavi, the lead developer of ECSAM, consults and teaches industrial and university courses in the modeling and requirements specification of computer-based systems. Currently, he chairs the Working Group on Education and Training of the IEEE Computer Society ECBS Technical Committee.

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"... this book provides its readers with a tried and true approach to systems/software requirements specification and analysis. ... Most importantly, the book provides the reader with insights into what to look for and what not. This is what I find missing in most of the newer and more revolutionary works on the topic."

—Don Reifer, posted on Amazon.com

Systems Modeling & Requirements Specification Using ECSAM

An Analysis Method for Embedded and Computer-Based Systems

by Jonah Z. Lavi and Joseph Kudish

A Proven Approach to Modeling Operational, Functional, and Design Requirements

Discover ECSAM, a method for requirements engineering and the modeling of computer-based systems (CBS). Practiced since 1980 in evolving versions by systems and software engineers, ECSAM was developed in part at Israel Aircraft Industries for the analysis and design of complex reactive embedded systems and software and has been presented in numerous undergraduate, graduate, and industrial courses.

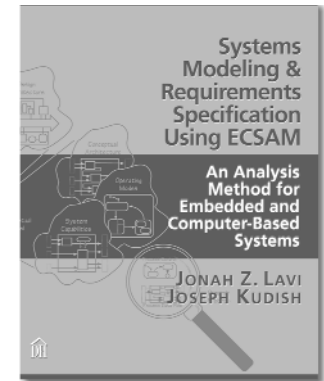
The method guides engineers in modeling operational, functional, and design requirements, considering both static and dynamic aspects of systems.

With an end-to-end example of the method, developed throughout the book, readers learn how to • develop conceptual models of the structural and operational

properties of computer-based systems and their software • develop systematically operational scenarios and use cases describing the interaction of the system with its environment • elicit and specify functional and nonfunctional requirements • allocate requirements to components of a conceptual model and use the model for the refinement and derivation of requirements • understand the issues of mapping the conceptual model to the design model.

Core audiences include those involved in the development of complex or mission-critical computer-based systems and their software, systems engineers, computer-based-systems engineers, software engineers, engineering managers, and students at undergraduate and graduate levels.

Read more about this book at www.dorsethouse.com/books/smars.html



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