General Principles of Systems Design

by Gerald M. Weinberg and Daniela Weinberg

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Subject(s): Requirements Engineering, Systems Analysis, Systems Design

Bring a Deeper Understanding of Systems to Software and System Development

About the Book

Originally titled On the Design of Stable Systems in its first, hardcover incarnation in 1979, General Principles of Systems Design does not just focus on computer systems, but systems of all kinds—human, natural, and technological.

In a highly readable, original presentation that embraces everything from depletion curves to the Feedback Principle (the method of controlling a system by reinserting it into the results of its past performance), the Weinbergs here explore the subtle art and science of regulating systems, projects, and people in the most efficient and logical manner possible. The authors draw on their respective backgrounds in technology and social science to offer fresh insights and translate them into a language that anyone can understand.

In the course of this presentation, the Weinbergs introduce a host of laws and theorems derived from the best thinking of systems thinkers over the past century.

In addition to being a reference book for professional and lay people alike, General Principles of Systems Design is suitable as an undergraduate text in the humanities, social, natural, and engineering sciences. It is unique in its approach, highly readable, and offers practical ways of solving problems.

Features 100+ figures.
"The authors combine the views of their disciplines and look at larger issues such as the interplay between systems and people, the abstract and concrete, and the theoretical and practical. The authors' style is light and sometimes humorous with a large number of quotations from literature. . . . Never dull . . . the book bears evidence of a global view in which systems design is a means if organizing ideas, structures, things, and experience."

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"The book is good at . . . the explanation of imaginative approaches to the organization of systems (of humans or of machines)."

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Principles of Systems Thinking. This topic forms part of the Systems Thinking knowledge area (KA). It identifies systems principles as part of the basic ideas of systems thinking. Some additional concepts more directly associated with engineered systems are described, and a summary of system principles associated with the concepts already defined is provided. A number of additional ‘laws’ and heuristics are also discussed. Start by marking ‘General Principles of Systems Design’ as Want to Read: Want to Read saving…

Early in my career, I was the architect for the Project Mercury’s space tracking network and designer of the world’s first multiprogrammed operating system. I won the Warnier Prize, the Stevens Award, and the first Software Testing Professionals’ Luminary Award, all for my writing on software quality.