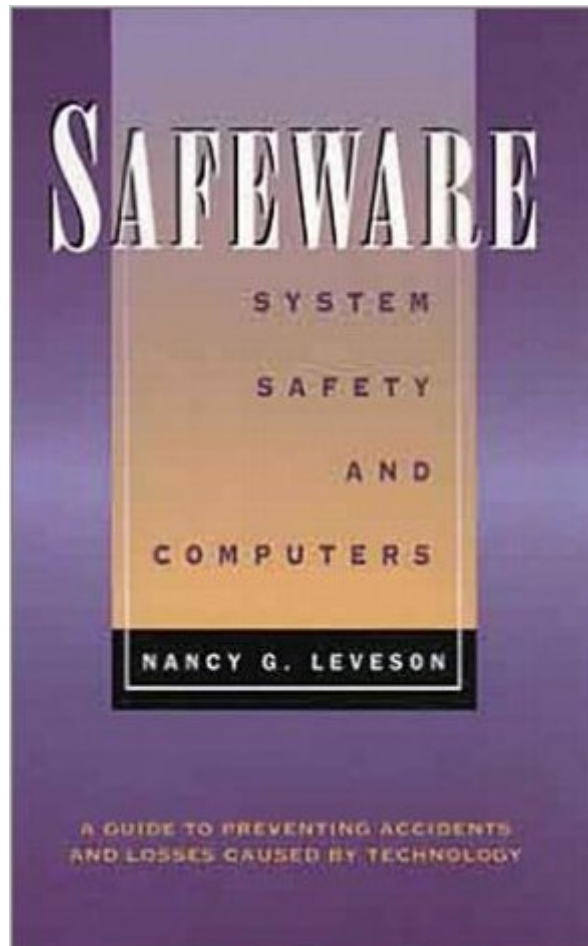


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# Safeware: System Safety And Computers



## Synopsis

This text examines what is currently known about building safe electromechanical systems and looks at past accidents to see what practical lessons can be applied to new computer-controlled systems.

## Book Information

Paperback: 704 pages

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## Customer Reviews

Although published over 15 years ago, *Safeware: System Safety and Computers* by Nancy Leveson remains relevant today. The focus of this book by Dr. Leveson is of course on software. But the book is much more than that. *Safeware* provides real lessons learned in system safety. The foundations and fundamentals of system safety are discussed, along with accident theory. An important chapter is included on designing for safety as well. In discussing software safety, Dr. Leveson presents software in context of the system. In other words, one cannot consider software safety without considering the system aspects of safety. The book presents hazard analysis theory, and includes software requirements and safety analysis fundamentals. One of the most interesting parts of the book is the detailed analysis provided in the appendices on a number of accidents, including accidents from the medical, aerospace, chemical, and nuclear industries. The technology may have changed since this book was first released, but the fundamentals of software system safety have not. Therefore, this book is highly recommended for those interested in system safety and software safety.

This is an OK book that should have been an excellent book. Frankly, it was a big disappointment. The author is the grand poo-bah of software safety, and so I expected the book to be deep and profound. Instead it is rather shallow with lots of generalities. A lot of what is said is the type of common sense discussion that I would expect from a social scientist, rather than a scientist. I was particularly surprised to see but one page on independent verification and validation. This is a very important topic for ensuring software safety, yet one evidently not on Professor Leveson's radar screen.

This book is among seminal works on system safety and safety engineering and should be read by anyone who is entering the field. One may not necessarily agree with Prof. Leveson's views (e.g. her often unfair and unjustified dismissal of European approaches to safety engineering) but her views in the field are simply too important and influential to be ignored! The book is a good "bed time reading" that gives an overview of the field, major problems and introduction to some major approaches. It is however not a handbook per se - you will not understand any particular method sufficiently to apply it. Overall, very good introductory text with a good coverage and a very easy and clear language!

This book is a starting point of what is important to make a system safety. This provides an overall view of system safety not software safety. The case studies in appendix are very important for safety engineers. Appendix A is the Therac-25 story on Medical devices. Appendix B is Apollo 13, the DC-10 and Challenger, Aerospace. Appendix D is Windscale, Three Mile Island and Chernobyl, Nuclear power. These are very bad accidents, so we should study more deeply. The naming "safeware" is very good wording, this is not safe software nor safe hardware. Go ahead, after this book. There are many resources about system safety and software safety. We have already many experiences about HAZOP. In 2011/1/18, we have a Workshop on Critical Software (WOCS2011) with Nancy.

The key to understanding safety lies in the understanding that no one component failure or no human error ever occurs in isolation - an accident is a result of some systemic problem, and this is the fundamental theme of this book. No single book could ever address in detail all of the finer points of system safety analysis (indeed this would take a series of books) but Leveson is able to capture the core issues in an engaging manner. This book is a must read for any student of software and system safety, and will continue to be relevant in an age where automated technology

is ubiquitous.

A very good collection of case studies and commentary and analysis on software safety, and software failures. Information like this is rare, and hard to find, yet invaluable.

Excellent book on Software safety. It gives a really good introduction. However, I prefer the shorter introduction from Ericson on "Software Safety Primer".

A must have compendium on Systems Safety Engineering.

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