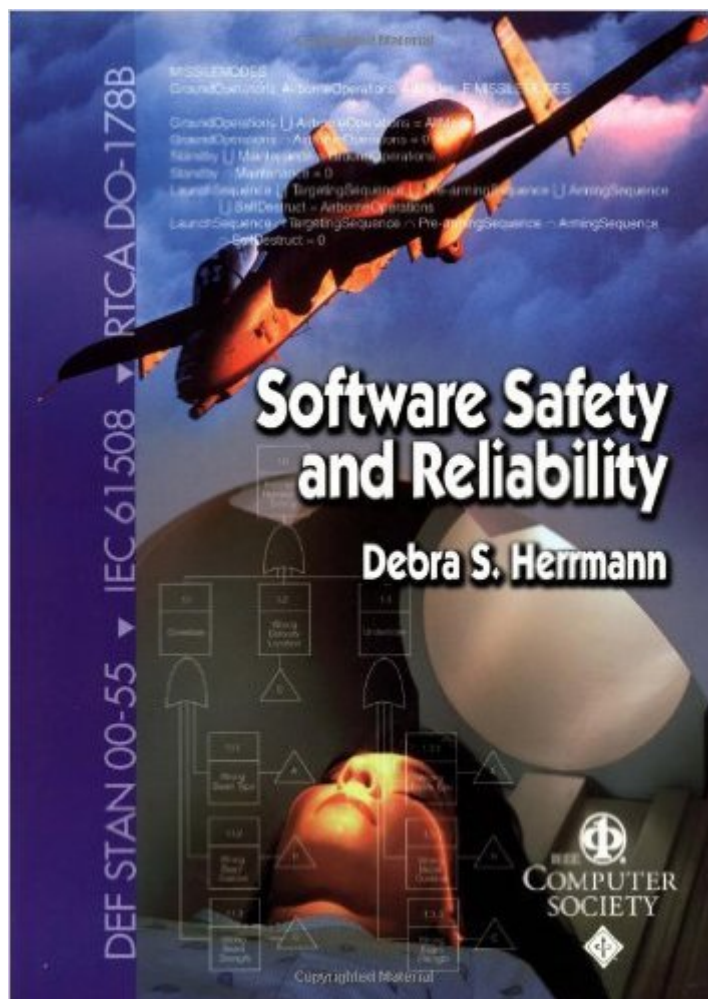# Software Safety And Reliability: Techniques, Approaches, And Standards Of Key Industrial Sectors

Synopsis

The role of software has changed from simply generating financial or mechanical data to monitoring and controlling equipment that directly affects human life and safety. As a result, a more thorough understanding and familiarity with the specialized techniques used to achieve and assess the safety and reliability of software is needed in academia, industry, and government. This original text introduces the concepts, techniques, and approaches used to achieve and assess software safety and reliability. Debra Herrmann presents a cross-section of current safety and reliability standards that cross multiple industrial sectors while focusing on the additional required activities to achieve software safety and reliability. In organizing this text, the she has three objectives. The first is to raise the reader's awareness on the importance of software safety and reliability and on its role in mission critical systems by presenting many illustrative, ever day examples. The second objective is to provide practical information about the current methods used to achieve and assess software safety and reliability. The final objective is to improve the understanding and practice of software safety and reliability by consolidating the latest research so that it can be compared and analyzed for the future. The book is written for engineers, scientists, managers, regulators, and policy makers involved in the design, development, acquisition, and certification of safety-critical systems.

Book Information

Paperback: 520 pages

Publisher: Wiley-IEEE Computer Society Pr; 1 edition (February 10, 2000)

Language: English

ISBN-10: 0769502997

ISBN-13: 978-0769502991

Product Dimensions: 7.1 x 1.1 x 10 inches

Shipping Weight: 2.3 pounds (View shipping rates and policies)

Average Customer Review: 3.0 out of 5 stars See all reviews (2 customer reviews)

Best Sellers Rank: #3,311,178 in Books (See Top 100 in Books)   #72 in Books > Computers & Technology > Programming > Software Design, Testing & Engineering > Quality Control   #151 in Books > Medical Books > Medicine > Prosthesis   #915 in Books > Engineering & Transportation > Engineering > Industrial, Manufacturing & Operational Systems > Quality Control

Customer Reviews

Software Safety and Reliability is an excellent resource for those who want to learn more about software safety. By going into detail into the approaches taken by a number of respected

organizations, the reader can take the best of each and apply them to their own problems. The major weakness in the approach was the reliance on software reliability as the major tool. A system safety approach as advocated by Dr. Nancy Leveson is much more complete and effective than reliability. Her latest book, Safeware: System Safety and Computers is a better resource for those who are really interested in the "How to's" of an effective software safety program. For the Software Safety professional, both references would be essential for your bookshelf.

Q. What's there to know about most software-intensive system safety standards? A. They proscribe what is considered to be an appropriate level of software engineering rigor proportional to the risk associated with the development. The objectives each standard requires are somewhat different - eg 50128 front loads on formal analysis, DO-178B emphasizes verification of expected behavior etc...If you really need to know the difference between standards then chances are you need the standards in question. This book won't provide you a better insight than that. If you are in the business of system safety you will quickly outgrow the works of Hermann and Leveson.

Software Safety and Reliability: Techniques, Approaches, and Standards of Key Industrial Sectors Software Assessment: Reliability, Safety, Testability (New Dimensions In Engineering Series) Safety-I and Safety-II: The Past and Future of Safety Management Strategies, Techniques, & Approaches to Critical Thinking: A Clinical Reasoning Workbook for Nurses, 5e (Strategies, Techniques, & Approaches to Thinking) Nora Roberts Key Trilogy CD Collection: Key of Light, Key of Knowledge, Key of Valor Safety Metrics: Tools and Techniques for Measuring Safety Performance The Industrial Design Reference & Specification Book: Everything Industrial Designers Need to Know Every Day Approaches to Teaching the Works of Italo Calvino (Approaches to Teaching World Literature) Software Reliability and Metrics Handbook of Software Reliability Engineering Software Reliability Engineering Software Reliability Methods (Texts in Computer Science) International Health and Safety at Work: for the NEBOSH International General Certificate in Occupational Health and Safety The Event Safety Guide: A Guide to Health, Safety and Welfare at Live Entertainment Events in the United States Guns Danger & Safety 2nd Edition: An Essential Guide In Firearm Ammunition, Loading, Shooting, Storage and Safety (Guns, Guns & Ammo, Ammunition, Hunting, ... Loading, Targets, Handguns, Gun Storage) Bicycle Safety (Rookie Read-About Safety) ASP Safety Fundamentals Exam Secrets Study Guide: ASP Test Review for the Associate Safety Professional Exam What Safety Leaders Do - - The Insider's Handbook for Safety Leadership Tips, Tactics, Secrets & Ideas Lean Safety: Transforming your Safety Culture

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