Written for those who want to develop their knowledge of requirements engineering process, whether practitioners or students. Using the latest research and driven by practical experience from industry, Requirements Engineering gives useful hints to practitioners on how to write and structure requirements. It explains the importance of Systems Engineering and the creation of effective solutions to problems. It describes the underlying representations used in system modeling and introduces the UML2, and considers the relationship between requirements and modeling. Coverage is of the multi-layer requirements pyramid. The book discusses the key, specific and quality control and management process.

The latest version of DOORS (Version 7) - a software tool which serves as an enabler of a requirements management process - is also introduced to the reader here. Additional material and links are available at:

http://www.requirementsengineering.info

“This book provides a detailed account concerning information society and the challenges and application posed by its elicitation, specification, validation and management: from embedded software in cars to internet-based applications, COTS packages, health-care, and others” - Provided by publisher.

Requirements Engineering - Processes and Techniques

Why this book was written

The value of introducing requirements engineering to trainee software engineers is to equip them for the real world of software and systems development. What is involved in Requirements Engineering? As a discipline, newly emerging from software engineering, there are a range of views on what requirements engineering is and where it fits in. The author introduces the major concepts and underlying rationale behind requirements engineering, providing a background against which topics such as human and organisational factors, and techniques that enable readers to effectively design, manage and deliver results.

Within systems development the correct capture of user requirements plays a central role in the construction of effective and flexible systems. Requirements Engineering as a discipline is relatively new, but increasingly being taught to undergraduates in order to help students to better understand the needs of industry and commerce in the development of effective systems.

Various systems engineering methods and techniques have been integrated into this handbook. These include object-oriented analysis, object-oriented modeling and design, and system management principles. The Handbook presents a generic multi-layer requirements pyramid that controls the scope of problem solving. This edition also includes an example of a wet well pumping system for a wastewater treatment station. With a focus on software-intensive systems, this text provides a probing and comprehensive review of recent developments in requirements engineering in high integrity systems.

So where do we begin? How do we structure the description of the book? How do we introduce the core concepts of requirements engineering and the techniques that it includes? How do we make sure that the reader understands the importance of Systems Engineering and the creation of effective solutions to problems. It describes the underlying representations used in system modeling and introduces the UML2, and considers the relationship between requirements and modeling. Coverage is of the multi-layer requirements pyramid. The book discusses the key, specific and quality control and management process. The latest version of DOORS (Version 7) - a software tool which serves as an enabler of a requirements management process - is also introduced to the reader here. Additional material and links are available at:

http://www.wiley.com/college/wws
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expand, and improve the material. This third edition includes many new topics, expanded discussions, additional exercises, and more examples. A focus on safety critical systems, where appropriate in examples and exercises, has also been introduced. Discussions have also been added to address the important domain of the Internet of Things. Another significant change involved the transition from the retired IEEE Standard 830, which was referenced throughout previous editions of the text, to its successor, the ISO/IEC/IEEE 29148 standard.

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