Requirements Engineering for Software and Systems, Second Edition (Applied Software Engineering Series)

By Phillip A. Laplante

Requirements Engineering for Software and Systems, Second Edition (Applied Software Engineering Series) By Phillip A. Laplante

As requirements engineering continues to be recognized as the key to on-time and on-budget delivery of software and systems projects, many engineering programs have made requirements engineering mandatory in their curriculum. In addition, the wealth of new software tools that have recently emerged is empowering practicing engineers to improve their requirements engineering habits. However, these tools are not easy to use without appropriate training.

Filling this need, **Requirements Engineering for Software and Systems, Second Edition** has been vastly updated and expanded to include about 30 percent new material. In addition to new exercises and updated references in every chapter, this edition updates all chapters with the latest applied research and industry practices. It also presents new material derived from the experiences of professors who have used the text in their classrooms. Improvements to this edition include:

- An expanded introductory chapter with extensive discussions on requirements analysis, agreement, and consolidation
- An expanded chapter on requirements engineering for Agile methodologies
- An expanded chapter on formal methods with new examples
- An expanded section on requirements traceability
- An updated and expanded section on requirements engineering tools
- New exercises including ones suitable for research projects

Following in the footsteps of its bestselling predecessor, the text illustrates key ideas associated with requirements engineering using extensive case studies and three common example systems: an airline baggage handling system, a point-of-sale system for a large pet store chain, and a system for a smart home. This edition also includes an example of a wet well pumping system for a wastewater treatment station.

With a focus on software-intensive systems, but highly applicable to non-

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Editorial Review

Review

Praise for the Bestselling First Edition:

Based on a Penn State course taught by the author, this text provides a review of the theoretical and practical aspects of discovering, analyzing, modeling, validating, testing, and writing requirements for systems of all kinds, particularly software-intensive systems. Incorporating a variety of formal methods, social models, and modern requirements writing techniques useful to practicing engineers, the text is suitable for professional software engineers, systems engineers, and senior undergraduate and graduate students in these fields. ?*Book News Inc.*

From the Author
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About the Author

Phillip A. Laplante, PhD, is professor of software engineering and a member of the graduate faculty at The Pennsylvania State University (Penn State). His research, teaching, and consulting focuses on software quality, particularly with respect to requirements, testing, and project management. Before joining Penn State he was a professor and senior academic administrator at several colleges and universities.

Dr. Laplante has consulted to Fortune 500 companies, small businesses, the US DOD, and NASA. He has also served on the technology advisory boards for several companies. Prior to his academic career, Dr. Laplante spent nearly a decade as a software engineer and project manager working on avionics (including the Space Shuttle), CAD, and software test systems. He was also director of business development for a software consulting firm. He has authored or edited 29 books and more than 200 papers, articles, reviews, and editorials.

Dr. Laplante received his BS, MEng, and PhD in computer science, electrical engineering, and computer science, respectively, from Stevens Institute of Technology and an MBA from the University of Colorado at Colorado Springs. He is licensed in Pennsylvania as a professional engineer and is a Certified Software Development Professional. He is a fellow of the IEEE and SPIE and a member of numerous professional societies, program committees, and boards.

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