

Basiswissen Requirements Engineering

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Requirements Engineering - Klaus Pohl
2010-07-24

Requirements engineering is the process of eliciting individual stakeholder requirements and needs and developing them into detailed,

agreed requirements documented and specified in such a way that they can serve as the basis for all other system development activities. In this textbook, Klaus Pohl provides a comprehensive and well-structured

introduction to the fundamentals, principles, and techniques of requirements engineering. He presents approved techniques for eliciting, negotiating and documenting as well as validating, and managing requirements for software-intensive systems. The various aspects of the process and the techniques are illustrated using numerous examples based on his extensive teaching experience and his work in industrial collaborations. His presentation aims at professionals, students, and lecturers in systems and software engineering or business applications development. Professionals such as project managers, software architects, systems analysts, and software engineers will benefit in their daily work from the didactically well-presented

combination of validated procedures and industrial experience. Students and lecturers will appreciate the comprehensive description of sound fundamentals, principles, and techniques, which is completed by a huge commented list of references for further reading. Lecturers will find additional teaching material on the book's website, www.requirements-book.com.

Basiswissen Requirements Engineering

- Klaus Pohl 2021-03-29

Kompaktes Grundlagenwerk für den Requirements Engineer Dieses Lehrbuch umfasst den erforderlichen Stoff zum Ablegen der Prüfung "Certified Professional for Requirements Engineering (Foundation Level)" nach IREB-Standard. Es vermittelt das Grundlagenwissen und behandelt die wesentlichen Prinzipien und Praktiken

sowie wichtige Begriffe und Konzepte.
Die Themen im Einzelnen: -
Grundlegende Prinzipien des
Requirements Engineering -
Arbeitsprodukte und
Dokumentationspraktiken - Praktiken
für die Erarbeitung von Anforderungen
- Prozess und Arbeitsstruktur -
Praktiken für das Requirements
Management - Werkzeugunterstützung
Das Buch eignet sich gleichermaßen
für das Selbststudium, zur
Vorbereitung auf die Zertifizierung
sowie als kompaktes Basiswerk zum
Thema in der Praxis und an
Hochschulen. Die 5. Auflage wurde
komplett überarbeitet, ist konform
zum IREB-Lehrplan Foundation Level
Version 3.0 und wurde angereichert
mit interaktiven Elementen wie
animierte Grafiken und Videos.
Designing Embedded Hardware - John

Catsoulis 2005-05-16
Embedded computer systems literally
surround us: they're in our cell
phones, PDAs, cars, TVs,
refrigerators, heating systems, and
more. In fact, embedded systems are
one of the most rapidly growing
segments of the computer industry
today. Along with the growing list of
devices for which embedded computer
systems are appropriate, interest is
growing among programmers, hobbyists,
and engineers of all types in how to
design and build devices of their
own. Furthermore, the knowledge
offered by this book into the
fundamentals of these computer
systems can benefit anyone who has to
evaluate and apply the systems. The
second edition of *Designing Embedded
Hardware* has been updated to include
information on the latest generation

of processors and microcontrollers, including the new MAXQ processor. If you're new to this and don't know what a MAXQ is, don't worry--the book spells out the basics of embedded design for beginners while providing material useful for advanced systems designers. Designing Embedded Hardware steers a course between those books dedicated to writing code for particular microprocessors, and those that stress the philosophy of embedded system design without providing any practical information. Having designed 40 embedded computer systems of his own, author John Catsoulis brings a wealth of real-world experience to show readers how to design and create entirely new embedded devices and computerized gadgets, as well as how to customize and extend off-the-shelf

systems. Loaded with real examples, this book also provides a roadmap to the pitfalls and traps to avoid. Designing Embedded Hardware includes: The theory and practice of embedded systems Understanding schematics and data sheets Powering an embedded system Producing and debugging an embedded system Processors such as the PIC, Atmel AVR, and Motorola 68000-series Digital Signal Processing (DSP) architectures Protocols (SPI and I2C) used to add peripherals RS-232C, RS-422, infrared communication, and USB CAN and Ethernet networking Pulse Width Monitoring and motor control If you want to build your own embedded system, or tweak an existing one, this invaluable book gives you the understanding and practical skills you need.

HCI in Mobility, Transport, and Automotive Systems - Heidi Krömker
2022-06-16

This book constitutes the refereed proceedings of the 4th International Conference on HCI in Mobility, Transport, and Automotive Systems, MobiTAS 2022, held as part of the 23rd International Conference, HCI International 2022, which was held virtually in June/July 2022. The total of 1271 papers and 275 posters included in the HCII 2022 proceedings was carefully reviewed and selected from 5487 submissions. The MobiTAS 2022 proceedings were organized in the following topical sections: Designing Interactions in the Mobility, Transport, and Automotive Context; Human-Centered Design of Automotive Systems; Driver Information and Assistance Systems;

Studies on Automated Driving; and Micro-mobility and Urban Mobility.

PGP: Pretty Good Privacy - Simson Garfinkel 1995

Pretty Good Privacy, or "PGP", is an encryption program widely available on the Internet. The program runs on MS-DOS, UNIX, and the Mac. PGP: Pretty Good Privacy offers both a readable technical user's guide and a fascinating behind-the-scenes look at cryptography and privacy, explaining how to get PGP from publicly available sources and how to install it on various platforms.

Investment under Uncertainty - Robert K. Dixit 2012-07-14

How should firms decide whether and when to invest in new capital equipment, additions to their workforce, or the development of new products? Why have traditional

economic models of investment failed to explain the behavior of investment spending in the United States and other countries? In this book, Avinash Dixit and Robert Pindyck provide the first detailed exposition of a new theoretical approach to the capital investment decisions of firms, stressing the irreversibility of most investment decisions, and the ongoing uncertainty of the economic environment in which these decisions are made. In so doing, they answer important questions about investment decisions and the behavior of investment spending. This new approach to investment recognizes the option value of waiting for better (but never complete) information. It exploits an analogy with the theory of options in financial markets, which permits a much richer dynamic

framework than was possible with the traditional theory of investment. The authors present the new theory in a clear and systematic way, and consolidate, synthesize, and extend the various strands of research that have come out of the theory. Their book shows the importance of the theory for understanding investment behavior of firms; develops the implications of this theory for industry dynamics and for government policy concerning investment; and shows how the theory can be applied to specific industries and to a wide variety of business problems.

Basiswissen Requirements Engineering, 3rd Edition - Klaus Pohl 2011
- Offizielles Lehrbuch zum "Certified Professional for Requirements Engineering - Foundation Level"--
Geschrieben von Mitgliedern des IREB-

Boards und Autoren des Lehrplans-
sehr renommiertes Autorenteam.
Basiswissen Requirements Engineering
- Klaus Pohl 2010

Basiswissen Requirements Engineering
- Klaus Pohl 2015-03

Requirements Engineering Fundamentals
- Klaus Pohl 2015

This book is designed to help requirements engineers prepare for the Certified Professional for Requirements Engineering Foundation Level exam as defined by the IREB. Requirements engineering tasks have become increasingly complex. In order to ensure a high level of knowledge and competency among requirements engineers, the International Requirements Engineering Board (IREB) developed a standardized

qualification called the Certified Professional for Requirements Engineering (CPRE). The certification defines the practical skills of a requirements engineer on various training levels. This book is designed for self-study and covers the curriculum for the Certified Professional for Requirements Engineering Foundation Level exam as defined by the IREB. The 2nd edition has been thoroughly revised and is aligned with the curriculum Version 2.2 of the IREB. In addition, some minor corrections to the 1st edition have been included. About IREB: The mission of the IREB is to contribute to the standardization of further education in the fields of business analysis and requirements engineering by providing syllabi and examinations, thereby achieving a

higher level of applied requirements engineering. The IRE Board is comprised of a balanced mix of independent, internationally recognized experts in the fields of economy, consulting, research, and science. The IREB is a non-profit corporation. For more information visit www.certified-re.com.

Digital Business Engineering -

Clemente Minonne 2022-01-27

Digital Business Transformation, Digitalisation, Business Strategy, Business Process, Business Analysis, Business Architecture, Business Models This book serves practitioners as a guide to digital business engineering. It was consciously conceived and prepared from a methodological perspective, thereby avoiding a strongly "technological" approach, rather focusing on the

presentation of methods and instruments. Its basis is a tried and tested framework model that can be understood as the ideal management cycle of digital business engineering. The control loop consists of goal-setting (Chapter 1: Setting a Business Strategy), implementation (Chapters 2–5), and success assessment (Chapter 6: Validating the Success of Business Transformation) and is located in an outer circuit. The operational implementation phases of digital business engineering are part of the inner cycle: Defining a Business Case (Chapter 2), Eliciting the Business Processes (Chapter 3), Deriving the Business Requirements (Chapter 4), and Transforming the Business Architecture (Chapter 5). The book follows a didactic structure: Each

chapter includes learning objectives, summaries, and repetition questions with solutions that can help the reader to reassure themselves and strengthen their knowledge. Users who want to familiarise themselves with the field of digital business engineering thus have material at their disposal that is ideal for self-study. But these modules can also help experienced digital business engineers to deepen their knowledge in their organisation and to strengthen their overall methodological competence.

Technical English for Geosciences -
Brigitte Markner-Jäger 2008-07-03

Here is a book for those who need to enhance their command of the English language with the terminology of geosciences. It includes coverage of a wide array of subjects from all

branches and disciplines of geosciences.

Basiswissen Requirements Engineering
- Klaus Pohl 2021

Software Product Line Engineering -
Klaus Pohl 2005-08-03

Software product line engineering has proven to be the methodology for developing a diversity of software products and software intensive systems at lower costs, in shorter time, and with higher quality. In this book, Pohl and his co-authors present a framework for software product line engineering which they have developed based on their academic as well as industrial experience gained in projects over the last eight years. They do not only detail the technical aspect of the development, but also an

integrated view of the business, organisation and process aspects are given. In addition, they explicitly point out the key differences of software product line engineering compared to traditional single software system development, as the need for two distinct development processes for domain and application engineering respectively, or the need to define and manage variability.

Explore It! - Elisabeth Hendrickson
2013-02-21

Uncover surprises, risks, and potentially serious bugs with exploratory testing. Rather than designing all tests in advance, explorers design and execute small, rapid experiments, using what they learned from the last little experiment to inform the next. Learn essential skills of a master

explorer, including how to analyze software to discover key points of vulnerability, how to design experiments on the fly, how to hone your observation skills, and how to focus your efforts. Software is full of surprises. No matter how careful or skilled you are, when you create software it can behave differently than you intended. Exploratory testing mitigates those risks. Part 1 introduces the core, essential skills of a master explorer. You'll learn to craft charters to guide your exploration, to observe what's really happening (hint: it's harder than it sounds), to identify interesting variations, and to determine what expected behavior should be when exercising software in unexpected ways. Part 2 builds on that foundation. You'll learn how to

explore by varying interactions, sequences, data, timing, and configurations. Along the way you'll see how to incorporate analysis techniques like state modeling, data modeling, and defining context diagrams into your explorer's arsenal. Part 3 brings the techniques back into the context of a software project. You'll apply the skills and techniques in a variety of contexts and integrate exploration into the development cycle from the very beginning. You can apply the techniques in this book to any kind of software. Whether you work on embedded systems, Web applications, desktop applications, APIs, or something else, you'll find this book contains a wealth of concrete and practical advice about exploring your software to discover its

capabilities, limitations, and risks.
Basiswissen requirements engineering
- Klaus Pohl 2011
- Offizielles Lehrbuch zum "Certified Professional for Requirements Engineering - Foundation Level"- geschrieben von Mitgliedern des IREB-Boards und Autoren des Lehrplans- sehr renommiertes Autorenteam.
Tool-Based Requirement Traceability between Requirement and Design Artifacts - Bernhard Turban
2013-04-16
Processes for developing safety-critical systems impose special demands on ensuring requirements traceability. Achieving valuable traceability information, however, is especially difficult concerning the transition from requirements to design. Bernhard Turban analyzes systems and software engineering

theories cross-cutting the issue (embedded systems development, systems engineering, software engineering, requirements engineering and management, design theory and processes for safety-critical systems). As a solution, the author proposes a new tool approach to support designers in their thinking in order to achieve traceability as a by-product to normal design activities and to extend traceability information with information about design decision rationale.

Basics Technical Drawing - Bert Bielefeld 2017-05-22

Technical Drawing deals with the representation of plans throughout all phases of a project. For students, the primary focus is on the development and methodical construction of a technical drawing.

Themes: Types of plan (from site plan and preliminary drawings to design and detail plans) Components of the plan (floor plan, section, elevation, detail) Line width, dimensioning, hatching, use of text, symbols Plan presentation and compilation

Requirements Engineering Aufgabenbuch
- Thomas Grosser 2015

Basics Roof Construction - Tanja Brotrück 2017-05-22

Roof structures are often treated in connection with masonry construction in the student's first designs. What are the different ways to create a protective canopy for a building, and what are the different forms such a structure may take? Themes: Types and function of roofs Frames Construction principles Coverings Building physics of roof construction

Software Testing Foundations -

Andreas Spillner 2014-03-19

Professional testing of software is an essential task that requires a profound knowledge of testing techniques. The International Software Testing Qualifications Board (ISTQB) has developed a universally accepted, international qualification scheme aimed at software and system testing professionals, and has created the Syllabi and Tests for the "Certified Tester." Today about 300,000 people have taken the ISTQB certification exams. The authors of Software Testing Foundations, 4th Edition, are among the creators of the Certified Tester Syllabus and are currently active in the ISTQB. This thoroughly revised and updated fourth edition covers the "Foundations Level" (entry level) and teaches the

most important methods of software testing. It is designed for self-study and provides the information necessary to pass the Certified Tester-Foundations Level exam, version 2011, as defined by the ISTQB. Also in this new edition, technical terms have been precisely stated according to the recently revised and updated ISTQB glossary. Topics covered: Fundamentals of Testing Testing and the Software Lifecycle Static and Dynamic Testing Techniques Test Management Test Tools Also mentioned are some updates to the syllabus that are due in 2015.

Basiswissen Requirements Engineering

- Klaus Pohl 2009

Basiswissen Requirements Engineering (iSQI-Reihe) - Klaus Pohl 2013

Requirements Engineering - Thomas
Grosser 2015

**Basiswissen Requirements Engineering,
4th Edition** - Chris Rupp. Klaus Pohl
2015

Numerical Ecology with R - Daniel
Borcard 2018-03-19

This new edition of Numerical Ecology with R guides readers through an applied exploration of the major methods of multivariate data analysis, as seen through the eyes of three ecologists. It provides a bridge between a textbook of numerical ecology and the implementation of this discipline in the R language. The book begins by examining some exploratory approaches. It proceeds logically with the construction of the key

building blocks of most methods, i.e. association measures and matrices, and then submits example data to three families of approaches: clustering, ordination and canonical ordination. The last two chapters make use of these methods to explore important and contemporary issues in ecology: the analysis of spatial structures and of community diversity. The aims of methods thus range from descriptive to explanatory and predictive and encompass a wide variety of approaches that should provide readers with an extensive toolbox that can address a wide palette of questions arising in contemporary multivariate ecological analysis. The second edition of this book features a complete revision to the R code and offers improved procedures and more diverse

applications of the major methods. It also highlights important changes in the methods and expands upon topics such as multiple correspondence analysis, principal response curves and co-correspondence analysis. New features include the study of relationships between species traits and the environment, and community diversity analysis. This book is aimed at professional researchers, practitioners, graduate students and teachers in ecology, environmental science and engineering, and in related fields such as oceanography, molecular ecology, agriculture and soil science, who already have a background in general and multivariate statistics and wish to apply this knowledge to their data using the R language, as well as people willing to accompany their

disciplinary learning with practical applications. People from other fields (e.g. geology, geography, paleoecology, phylogenetics, anthropology, the social and education sciences, etc.) may also benefit from the materials presented in this book. Users are invited to use this book as a teaching companion at the computer. All the necessary data files, the scripts used in the chapters, as well as extra R functions and packages written by the authors of the book, are available online (URL: <http://adn.biol.umontreal.ca/~numericalecology/numecolR/>). Software Architecture Fundamentals - Mahbouba Gharbi 2019-02-27 Software architecture is an important factor for the success of any software project. In the context of

systematic design and construction, solid software architecture ensures the fulfilment of quality requirements such as expandability, flexibility, performance, and time-to-market. Software architects reconcile customer requirements with the available technical options and the prevailing conditions and constraints. They ensure the creation of appropriate structures and smooth interaction of all system components. As team players, they work closely with software developers and other parties involved in the project. This book gives you all the basic know-how you need to begin designing scalable system software architectures. It goes into detail on all the most important terms and concepts and how they relate to other IT practices. Following on from the basics, it

describes the techniques and methods required for the planning, documentation, and quality management of software architectures. It details the role, the tasks, and the work environment of a software architect, as well as looking at how the job itself is embedded in company and project structures. The book is designed for self-study and covers the curriculum for the Certified Professional for Software Architecture – Foundation Level (CPSA-F) exam as defined by the International Software Architecture Qualification Board (iSAQB). *Handbook of Engineering Systems Design* - Anja Maier 2022-07-30 This handbook charts the new engineering paradigm of engineering systems. It brings together contributions from leading thinkers

in the field and discusses the design, management and enabling policy of engineering systems. It contains explorations of core themes including technical and (socio-) organisational complexity, human behaviour and uncertainty. The text includes chapters on the education of future engineers, the way in which interventions can be designed, and presents a look to the future. This book follows the emergence of engineering systems, a new engineering paradigm that will help solve truly global challenges. This global approach is characterised by complex sociotechnical systems that are now co-dependent and highly integrated both functionally and technically as well as by a realisation that we all share the same: climate, natural resources, a

highly integrated economical system and a responsibility for global sustainability goals. The new paradigm and approach requires the (re)designing of engineering systems that take into account the shifting dynamics of human behaviour, the influence of global stakeholders, and the need for system integration. The text is a reference point for scholars, engineers and policy leaders who are interested in broadening their current perspective on engineering systems design and in devising interventions to help shape societal futures.

On the Move to Meaningful Internet Systems: OTM 2015 Conferences -

Christophe Debruyne 2015-10-29

This volume constitutes the refereed proceedings of the Confederated International Conferences:

Cooperative Information Systems, CoopIS 2015, Ontologies, Databases, and Applications of Semantics, ODBASE 2015, and Cloud and Trusted Computing, C&TC, held as part of OTM 2015 in October 2015 in Rhodes, Greece. The 30 full papers presented together with 15 short papers were carefully reviewed and selected from 144 initial submissions. The OTM program every year covers data and Web semantics, distributed objects, Web services, databases, information systems, enterprise workflow and collaboration, ubiquity, interoperability, mobility, grid and high-performance computing.

Seminal Contributions to Information Systems Engineering - Janis Bubenko
2013-06-13

In 2013, the International Conference on Advance Information Systems

Engineering (CAiSE) turns 25. Initially launched in 1989, for all these years the conference has provided a broad forum for researchers working in the area of Information Systems Engineering. To reflect on the work done so far and to examine prospects for future work, the CAiSE Steering Committee decided to present a selection of seminal papers published for the conference during these years and to ask their authors, all prominent researchers in the field, to comment on their work and how it has developed over the years. The scope of the papers selected covers a broad range of topics related to modeling and designing information systems, collecting and managing requirements, and with special attention to how information systems are engineered

towards their final development and deployment as software components. With this approach, the book provides not only a historical analysis on how information systems engineering evolved over the years, but also a fascinating social network analysis of the research community. Additionally, many inspiring ideas for future research and new perspectives in this area are sparked by the intriguing comments of the renowned authors.

Mastering the Requirements Process - Suzanne Robertson 2013

"Mastering the Requirements Process: Getting Requirements Right" sets out an industry-proven process for gathering and verifying requirements, regardless of whether you work in a traditional or agile development environment. In this sweeping update

of the bestselling guide, the authors show how to discover precisely what the customer wants and needs, in the most efficient manner possible.

Basiswissen Requirements Engineering, 5th Edition - Klaus Pohl 2021

Dieses Lehrbuch umfasst den erforderlichen Stoff zum Ablegen der Prüfung »Certified Professional for Requirements Engineering (Foundation Level)« nach IREB-Standard. Es vermittelt das Grundlagenwissen und behandelt die wesentlichen Prinzipien und Praktiken sowie wichtige Begriffe und Konzepte. Die Themen im Einzelnen: - Grundlegende Prinzipien des Requirements Engineering- Arbeitsprodukte und Dokumentationspraktiken- Praktiken für die Erarbeitung von Anforderungen- Prozess und Arbeitsstruktur- Praktiken für das

Requirements Management-
Werkzeugunterstützung Die 5. Auflage
wurde komplett überarbeitet, ist
konform zum IREB-Lehrplan Foundation
Level Version 3.0 und wurde
angereichert mit interaktiven
Elementen wie animierte Grafiken und
Videos.

Agile Testing - Manfred Baumgartner
2021-09-09

This book is written by testers for
testers. In ten chapters, the authors
provide answers to key questions in
agile projects. They deal with
cultural change processes for agile
testing, with questions regarding the
approach and organization of software
testing, with the use of methods,
techniques and tools, especially test
automation, and with the redefined
role of the tester in agile projects.
The first chapter describes the

cultural change brought about by
agile development. In the second
chapter, which addresses agile
process models such as Scrum and
Kanban, the authors focus on the role
of quality assurance in agile
development projects. The third
chapter deals with the agile test
organization and the positioning of
testing in an agile team. Chapter 4
discusses the question of whether an
agile tester should be a generalist
or a specialist. In Chapter 5, the
authors turn to the methods and
techniques of agile testing,
emphasizing the differences from
traditional, phase-oriented testing.
In Chapter 6, they describe which
documents testers still need to
create in an agile project. Next,
Chapter 7 explains the efficient use
of test automation, which is

particularly important in agile development, as it is the main instrument for project acceleration and is necessary to support state-of-the-art DevOps approaches and Continuous Integration. Chapter 8 then adds examples from test tool practice extending test automation to include test management functionality. Chapter 9 is dedicated to training and its importance, emphasizing the role of employee training in getting started with agile development. Finally, Chapter 10 summarizes the results of the agile journey in general with a special focus on testing. To make the aspects described even more tangible, the specific topics of this book are accompanied by the description of experiences from concrete software development projects of various

organizations. The examples demonstrate that different approaches can lead to solutions that meet the specific challenges of agile projects.

Basiswissen Requirements Engineering
- Klaus Pohl 2021-03-29

Kompaktes Grundlagenwerk für den Requirements Engineer Dieses Lehrbuch umfasst den erforderlichen Stoff zum Ablegen der Prüfung "Certified Professional for Requirements Engineering (Foundation Level)" nach IREB-Standard. Es vermittelt das Grundlagenwissen und behandelt die wesentlichen Prinzipien und Praktiken sowie wichtige Begriffe und Konzepte. Die Themen im Einzelnen: - Grundlegende Prinzipien des Requirements Engineering - Arbeitsprodukte und Dokumentationspraktiken - Praktiken

für die Erarbeitung von Anforderungen
- Prozess und Arbeitsstruktur -
Praktiken für das Requirements
Management - Werkzeugunterstützung
Das Buch eignet sich gleichermaßen
für das Selbststudium, zur
Vorbereitung auf die Zertifizierung
sowie als kompaktes Basiswerk zum
Thema in der Praxis und an
Hochschulen. Die 5. Auflage wurde
komplett überarbeitet, ist konform
zum IREB-Lehrplan Foundation Level
Version 3.0 und wurde angereichert
mit interaktiven Elementen wie
animierte Grafiken und Videos.
Requirements Engineering - Roel
Wieringa 1996-05-03
An analysis of product development.
Systems. Product development.
Requirements specifications.
Requirements engineering methods.
ISAC change analysis and activity

study. Information strategy planning.
The entity-relationship approach I:
models. The entity-relationship
approach II: methods. Structured
analysis I: models. Structured
analysis II: methods. Jackson system
development I: models. Jackson system
development II: methods. Method
integration and strategy selection. A
framework for requirements
engineering I: models. A framework
for requirements engineering II:
methods. Development strategies.
Selecting a development strategy.
Answers to select exercises. Cases.
An outline of some development
methods.
Basiswissen Requirements Engineering,
1st Edition - Klaus Pohl. Chris Rupp
2011

Mastering Uncertainty in Mechanical

Engineering - Peter F. Pelz
2021-10-11

This open access book reports on innovative methods, technologies and strategies for mastering uncertainty in technical systems. Despite the fact that current research on uncertainty is mainly focusing on uncertainty quantification and analysis, this book gives emphasis to innovative ways to master uncertainty in engineering design, production and product usage alike. It gathers authoritative contributions by more than 30 scientists reporting on years of research in the areas of engineering, applied mathematics and law, thus offering a timely, comprehensive and multidisciplinary account of theories and methods for quantifying data, model and structural uncertainty, and of

fundamental strategies for mastering uncertainty. It covers key concepts such as robustness, flexibility and resilience in detail. All the described methods, technologies and strategies have been validated with the help of three technical systems, i.e. the Modular Active Spring-Damper System, the Active Air Spring and the 3D Servo Press, which have been in turn developed and tested during more than ten years of cooperative research. Overall, this book offers a timely, practice-oriented reference guide to graduate students, researchers and professionals dealing with uncertainty in the broad field of mechanical engineering.

Basiswissen Requirements Engineering
- Klaus Pohl 2021-01-31

Arduino Robotics - John-David Warren

2011-10-08

This book will show you how to use your Arduino to control a variety of different robots, while providing step-by-step instructions on the entire robot building process. You'll learn Arduino basics as well as the characteristics of different types of motors used in robotics. You also discover controller methods and failsafe methods, and learn how to apply them to your project. The book starts with basic robots and moves into more complex projects, including a GPS-enabled robot, a robotic lawn mower, a fighting bot, and even a DIY Segway-clone. Introduction to the Arduino and other components needed for robotics Learn how to build motor controllers Build bots from simple line-following and bump-sensor bots to more complex robots that can mow

your lawn, do battle, or even take you for a ride Please note: the print version of this title is black & white; the eBook is full color.

Solid State Development and Processing of Pharmaceutical Molecules - Michael Gruss 2021-11-15
Solid State Development and Processing of Pharmaceutical Molecules A guide to the latest industry principles for optimizing the production of solid state active pharmaceutical ingredients Solid State Development and Processing of Pharmaceutical Molecules is an authoritative guide that covers the entire pharmaceutical value chain. The authors—noted experts on the topic—examine the importance of the solid state form of chemical and biological drugs and review the development, production, quality

control, formulation, and stability of medicines. The book explores the most recent trends in the digitization and automation of the pharmaceutical production processes that reflect the need for consistent high quality. It also includes information on relevant regulatory and intellectual property considerations. This resource is aimed at professionals in the pharmaceutical industry and offers an in-depth examination of the commercially relevant issues facing developers, producers and distributors of drug substances. This important book: Provides a guide for the effective development of solid drug forms Compares different characterization methods for solid

state APIs Offers a resource for understanding efficient production methods for solid state forms of chemical and biological drugs Includes information on automation, process control, and machine learning as an integral part of the development and production workflows Covers in detail the regulatory and quality control aspects of drug development Written for medicinal chemists, pharmaceutical industry professionals, pharma engineers, solid state chemists, chemical engineers, Solid State Development and Processing of Pharmaceutical Molecules reviews information on the solid state of active pharmaceutical ingredients for their efficient development and production.