UNISA996466211503316 Computer Safety, Reliability, and Security [[electronic resource]] : SAFECOMP 2012 Workshops: Sassur, ASCoMS, DESEC4LCCI,
ERCIM/EWICS, IWDE, Magdeburg, Germany, September 25-28, 2012, Proceedings / / edited by Frank Ortmeier, Peter Daniel
Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2012
3-642-33675-2
[1st ed. 2012.]
1 online resource (XVI, 530 p. 198 illus.)
Programming and Software Engineering ; ; 7613
005.8
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Computer communication systems
Computer logic
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Software engineering
Computers and civilization
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Trustworthy Systems Engineering -- A Preliminary Fault Injection Framework for Evaluating Multicore Systems -- Meeting Real-Time Requirements with Multi-core Processors -- Assessing Software Interference Management When Modifying Safety-Related Software --Introduction to ASCoMS 2012 -- Towards Dependable and Stable Perception in Smart Environments with Timing and Value Faults -- An Approach Supporting Fault-Propagation Analysis for Smart Sensor Systems -- Use of Quality Metrics for Functional Safety in Systems of Cooperative Vehicles -- From Autonomous Vehicles to Safer Cars: Selected Challenges for the Software Engineering -- Modelling of Safety-Related Timing Constraints for Automotive Embedded Systems -- Introduction to DESEC4LCCI 2012 -- Quantitative Security Evaluation of a Multi-biometric Authentication System -- Protecting the WSN Zones of a Critical Infrastructure via Enhanced SIEM Technology -- On Securing Communications among Federated Health Information Systems -- How Secure Is ERTMS -- International Cooperation Experiences: Results Achieved, Lessons Learned, and Way Ahead -- A Federated Simulation Framework with ATN Fault Injection Module for Reliability Analysis of UAVs in Non-controlled Airspace -- HSIENA: A Hybrid Publish/Subscribe System -- WSDM-Enabled Autonomic Augmentation of Classical Multi-version Software Fault-Tolerance Mechanisms -- Formal Verification of a Safety Argumentation and Application to a Complex UAV System -- Electronic Reliability Estimation: How Reliable Are the Results -- Model-Based Assessment of Multi-region Electric Power Systems Showing Heterogeneous Characteristics.-Introduction to the ERCIM/EWICS Cyberphysical Systems Workshop 2012 -- The Cyber-Physical Attacker --Dependable and Secure Embedded Node Demonstrator -- Towards Secure Time-Triggered Systems -- Towards a Framework for Simulation Based Design, Validation and Performance Analysis of Electronic Control Systems -- Compiling for Time Predictability --Towards the Automated Qualification of Tool Chain Design -- A Systematic Elaboration of Safety Requirements in the Avionic Domain --Parallel NuSMV: A NuSMV Extension for the Verification of Complex Embedded Systems -- Supporting Assurance by Evidence-Based Argument Services -- Towards Composable Robotics: The R3-COP Knowledge-Base Driven Technology Platform -- Addressing the Needs of an Aging Population: An Experiment for Monitoring Behaviour in a Domestic Environment -- Introduction to IWDE 2012 -- Modeling the Effects of Software on Safety and Reliability in Complex Embedded Systems -- Towards Artificial Perception -- A Case Study of Radio-Based Monitoring System for Enhanced Safety of Logistics Processes --Visual Approach Facilitating the Importance Analysis of Component Fault Trees -- Simulation of Structural Effects in Embedded Systems and Visualization of Dependencies According to an Intended Attack or Manipulation -- From Discrete Event Simulation to Virtual Reality Environments -- Program Comprehension in Preprocessor-Based Software. Sommario/riassunto This book constitutes the refereed proceedings of 5 workshops colocated with SAFECOMP 2012, the 31st International Conference on Computer Safety, Reliability, and Security, held in Magdeburg, Germany, in September 2012. The 49 revised full papers presented were carefully reviewed and selected from numerous submissions. According to the workshops covered, the papers are organized in topical sections on: next generation of system assurance approaches for safety-critical systems (Sassur), architecting safety in collaborative mobile systems (ASCoMS), dependable and secure computing for largescale complex critical infrastructures (DESEC4LCCI),