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EDITORIAL

Editorial

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Software technology has literally become a key technology in today's industrialized and global society. High quality, time and cost constraints require resource-efficient development methodologies and software solutions that are tailored to complex business requirements. These challenges are present in all areas where software is used, including business information systems, automotive embedded systems, and web applications. The "Software Engineering 2010" conference (SE 2010) was conducted under the title "Efficient software solutions for complex business requirements" to present and discuss new academic and industrial results to approach these challenges.

The SE 2010 was conducted from February 22nd to 26th, 2010, at the University of Paderborn. It was the sixth event within an established series of conferences with the goal to bring together and strengthen the German Software Engineering Community. The SE 2010 provided a forum for an intensive exchange of practical experiences, scientific findings, and future challenges regarding the engineering of software products and software-intensive systems. It was directed both at participants from industry and academia. The proceedings were published in the Lecture Notes in Informatics, Volume 159.

All software engineering conferences are sponsored by the Department for Software Engineering of the Gesellschaft für Informatik e.V. The SE 2010 was organized by the chair of Databases and Information Systems as well as the s-lab—Software Quality Lab at the University of Paderborn.

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The SE 2010 provided peer-reviewed research in the main program and invited scientific keynotes. Of the 47 submissions for the technical-scientific program, 17 papers were accepted. Moreover, peer-reviewed and invited keynotes on current industrial problems, proposed solutions, and lessons-learned were discussed. The SE FIT, a forum for computer science transfer institutions, and a doctoral symposium complemented the program. As an important part of the SE 2010, there were eight workshops and six tutorials on innovative and practice-relevant topics in software engineering, which gathered great interest. The workshops covered topics that range from enterprise engineering to the comprehensive discussion of the future development of software-intensive embedded systems. In addition, there were workshops on innovative topics in the areas of quality management, product line development, social software engineering, grid workflows, enterprise architecture management, and software technical support to civil security.

In this special issue of the CSRD the five best papers of SE 2010 are reprinted in their extended and revised versions. Tobias Eckardt et al. address in "Modeling and Verifying Dynamic Communication Structures based on Graph Transformations" an important topic in the quality assurance of self-* systems by presenting an approach to deal with the state explosion problem. Thereby, even complex self-* software systems may be quality checked in practice. Dirk Ahrens et al. present in their paper entitled with "Objective Evaluation of Software Architectures in Driver Assistance Systems" an approach to objectively evaluate software architectures in automotive embedded systems. David Trachtenherz improves model-based specifications of automotive embedded systems, as described in his paper "Formal semantics of modular time refinement in AutoFocus". Both approaches advance the state oft the art in development of automotive embedded systems. In the paper "Model-

Driven Software Migration into Service-Oriented Architectures" by Andreas Fuhr et al., an approach is presented to migrate complex legacy systems into a service-oriented architecture (SOA) by generating fully functional web services. Markus Jahn et al. present in the paper "Composing User-specific Web Applications From Distributed Plug-in" a plug-in framework for distributed web applications. Both approaches support the trend towards web- and service-based development to tackle the complexity of today's software systems.

We hope to give you many new insights and findings while reading this special issue!

Paderborn

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Markus Luckey, Organization Chair