

Preface

The System Design Languages Forum (SDL Forum), held every two years, is an international conference that provides an open arena for participants from academia and industry to present and discuss recent innovations, trends, experiences, and concerns in the field of system design languages and modeling technologies. Originally focussing on the Specification and Description Language — standardized and further developed by the International Telecommunications Union (ITU) over a period of nearly 40 years — the SDL Forum has broadened its topics in the course of time.

The SDL Forum conference series is run by the SDL Forum Society, a non-profit organization founded in 1995 by language users and tool providers to promote the ITU Specification and Description Language and related system design languages, including, for instance, Message Sequence Charts (MSC), Abstract Syntax Notation One (ASN.1), Testing and Test Control Notation (TTCN-3), User Requirements Notation (URN), Unified Modeling Language™ (UML), and Systems Modeling Language™ (SysML).

The local co-organizers of the 17th edition of the SDL Forum (SDL 2015) were the Humboldt-Universität zu Berlin and Fraunhofer FOKUS. A special focus of SDL 2015 was on model-driven engineering for smart cities: In the future, new information and communication technologies will be integrated in more and more buildings, streets, and institutions. The challenge will be to allow all citizens a seamless access to relevant information, to sustainably and economically use the available resources, to master the growing claims of networked mobility infrastructures, and to organize a modern, citizen-friendly administration. Modeling the structure and behavior of these kinds of complex systems of different domains requires adequate description, computation, testing, and general software techniques. Thus, the use of models serves no end in itself but should ideally allow for automatic derivation of complex software from models. In addition, practical problems of performance, scalability, robustness, and security of such systems come into the focus of interest.

This volume contains the papers presented at SDL 2015: 19 high-quality papers selected from 26 submissions. Each paper was peer reviewed by at least three Program Committee members and discussed during the online Program Committee meeting. The selected papers cover a wide spectrum of topics related to system design languages, ranging from the System Design Language usage and evolution to model transformations, and are grouped into six technical sessions as reflected in this volume. The first session is devoted to smart cities and distributed systems. The papers in the second session propose changes to the ITU-T Specification and Description Language. Domain-specific languages are proposed in the third session papers, followed by a number of papers tackling different issues related to goal modeling. The fifth session includes a set of papers on use-case modeling before concluding with contributions on model-based testing.

The SDL Forum has been made possible by the dedicated work and contributions of many people and organizations. We thank the authors of submitted papers, the members of the Program Committee, and the members of the SDL Forum Society Board. We thank the communications services, conference services, and instructional and information technology services of Fraunhofer FOKUS for their support. The submission and review process was run with easychair.org, and we thank the people behind the EasyChair conference system. We thank the sponsors of SDL 2015: Technische Universität Kaiserslautern, PragmaDev, Fraunhofer FOKUS, Humboldt-Universität zu Berlin, and SDL Forum Society.

October 2015

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<http://www.springer.com/978-3-319-24911-7>

SDL 2015: Model-Driven Engineering for Smart Cities
17th International SDL Forum, Berlin, Germany, October
12-14, 2015, Proceedings

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(Eds.)

2015, XIV, 285 p. 90 illus. in color., Softcover

ISBN: 978-3-319-24911-7