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Formal Aspects of Component Software

14th International Conference, FACS 2017 Braga, Portugal, October 10–13, 2017 Proceedings

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Preface

This volume contains the papers presented at the 14th International Conference on Formal Aspects of Component Software (FACS 2017), held in Braga, Portugal, during October 10–13, 2017.

The objective of FACS is to bring together practitioners and researchers in the areas of component software and formal methods in order to promote a deeper understanding of how formal methods can or should be used to make component-based software development succeed. The component-based software development approach has emerged as a promising paradigm to transport sound production and engineering principles into software engineering and to cope with the ever-increasing complexity of present-day software solutions. However, many conceptual and technological issues remain in component-based software development theory and practice that pose challenging research questions. Moreover, the advent of cloud computing, cyber-physical systems, and of the Internet of Things has brought to the fore new dimensions. These include quality of service, reconfiguration, and robustness to withstand inevitable faults, which require established concepts to be revisited and new ones to be developed in order to meet the opportunities offered by these architectures.

We received 26 submissions from 20 countries, out of which the Program Committee selected 14 papers. All submitted papers were reviewed by at least three referees. The conference proceedings were made available at the conference date, including the final versions of the papers that took into account the comments received by the reviewers. The authors of a selected subset of accepted papers were invited to submit extended versions of their papers to appear in a special issue of Elsevier's *Science of Computer Programming* journal.

We would like to express our gratitude to all the researchers who submitted their work to the symposium, to the Steering Committee members who provided precious guidelines and support, to all colleagues who served on the Program Committee, as well as the external reviewers, who helped us to prepare a high-quality conference program. Particular thanks to the invited speakers, David Costa from NewMotion in Amsterdam and Catuscia Palamidessi from Inria in Saclay, for their efforts and dedication to present their research and to share their perspective on formal methods for component software at the conference. We are extremely grateful for the help in managing all practical arrangements by the local organizers at the University of Minho, and in particular to Catarina Fernandes and Paula Rodrigues. We also thank the Engineering School of the University of Minho, INESC TEC, FCT, and Elsevier for their sponsorship.

October 2017

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