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Second International Workshop on Verification and Validation of Enterprise Information Systems

J.UCS Special Issue

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One of the basic problems in the history of Computer Science, and more recently of Software Engineering, is to ensure reliability and correctness of the systems produced. Hence, verification and validation issues have been, are, and will be a great concern for the research community.

In particular, advances in the area of Enterprise Information Systems (EIS) continuously push ahead the complexity of the systems involved, uncovering new challenges as new application domains are considered and new technologies are combined or created. Characteristic problems faced by system developers in the area of EIS are the use of distributed resources interacting via synchronous or asynchronous communication, consistency of data, as well as security and performance issues, to mention a few.

After several decades of sustained effort, verification and validation techniques are now available to industry and business-related software developers. Theoretical advances in the last decades materialized in real tools that can be now incorporated to the development cycle. Still the problems are numerous as systems grow and new technologies are considered. EIS is a continuous source of interesting challenges for the Verification and Validation community and to contribute to the progress of this area a workshop is annually organized as one of the satellite events of the International Conference on Enterprise Information Systems (ICEIS). It is the aim of this workshop to stimulate the exchange of ideas/experiences of practitioners, researchers, and engineers working in the area of validating/verifying software for EIS.

Because one of the aims of the workshop is to stimulate dialog between people working in the area from different perspectives, a wide range of contributions are welcomed, both practical and theoretical papers, including case studies from all areas related to increasing confidence in the correctness of EIS software. This covers a wide range of topics, including verification through model checking, system validation and testing. This second edition of the workshop was hosted by the Universidade Portucalense, Porto, Portugal. A variety of presentations covered a range of theoretical and practical issues and here we selected three articles that reflect that variety.

FBT: A Tool for Applying Interval Logic Specifications to On-the-fly Model Checking by Miguel J. Hornos (Departamento de Lenguajes y Sistemas Informáticos, University of Granada, Spain). It presents a tool that can translate formulas from a temporal logic called Future Interval Logic into Büchi automata with representational advantages to on-the-fly model checking.

Automated Support for Enterprise Information Systems by John Andrew van der Poll (University of South Africa, South Africa), Paula Kotzé (University of South Africa, South Africa and Willem Adrian Labuschagne (University of Otago, New Zealand). It explores a formalization of a multi-level marketing system in Z which is then used as a scenario where to show the usefulness of different heuristics relevant to theorem-proving approaches of business modelling and verification.

Checking Consistency Between UML Class and State Models Based on CSP and B by W. L. Yeung (Department of Computing and Decision Sciences, Lingnan University, Hong Kong). It relates well known Formal Methods approaches to verification like CSP and B to UML specifications and illustrates their use with an example considering aspects of an enterprise information system.

We hope the continuation of this event will create an appropriate meeting place for fruitful interchanges between researchers and developers who have been considering these problems from different perspectives so that all efforts can be combined in a way that allows to overcome the difficulties of this field.

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schedule. Finally, especial thanks to the authors, who made this issue possible with their submissions and their willingness to improve their work throughout the several stages of the review process.

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Ulrich Ultes-Nitsche
(Jordanston, November 16, 2004)

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