

Guest editors' introduction

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Welcome to this Special Issue of the Journal of Automated Software Engineering. It presents selected papers from the 22nd International Conference on Automated Software Engineering (ASE 2007) held in Atlanta, USA, in November 5–9, 2007. ASE 2007 received 312 submissions, which were rigorously reviewed, before the program committee met in London, UK, and accepted 37 full papers and 38 short papers. For this special issue, the authors of the best accepted full papers were invited to submit extended versions for publication in the Journal of Automated Software Engineering. After a further reviewing round to ensure that the papers meet archival publication requirements, the following five papers were accepted.

The paper *Monitoring and Diagnosing Software Requirements* by Yiqiao Wang, Sheila McIlraith, Yijun Yu and John Mylopoulos proposes a framework for monitoring and diagnosing failures among software requirements. Failures include situations where a pre-condition or post-condition is violated.

Greg Little and Rob Miller, in *Keyword Programming in Java*, propose a technique for reducing the need to remember details of programming language syntax and API. This is an advanced code completion mechanism that augments simple keywords to fit the context in which they are written.

In their paper *Scalable Satisfiability Checking and Test Data Generation from Modeling Diagrams*, Yannis Smaragdakis, Christoph Csallner and Ranjith Subramanian, explore the automatic generation of test data considering the constraints expressed in an accompanied object-role model. The scalability concerns are eased by

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restricting the approach to a specific subset of the ORM that allows efficient reasoning yet contains most constraints used in practice.

The paper *Fast Extraction of High-Quality Framework-Specific Models from Application Code*, by Michal Antkiewicz, Thiago Tonelli Bartolomei and Krzysztof Czarnecki, proposes a technique for extracting framework-specific modeling information from application code. This reverse engineering activity is useful for code understanding, round-trip engineering, and verifying the correct implementation of the framework.

Finally, Shay Artzi, Adam Kieżun, Jaime Quinonez and Michael Ernst, in *Parameter Reference Immutability: Formal Definition, Inference Tool, and Comparison*, propose an approach for identifying whether a method's execution can modify the state of the calling object via its parameters. The approach does this through a sequence of lightweight analysis stages which improve on the scalability and accuracy of existing approaches.

We thank all members of the program committee and the expert review panel for their hard work in identifying the papers for this special issue. We also thank all reviewers of the extended versions for their efforts. Of course, we particularly thank the authors of these papers for their outstanding contributions and hard work. These five papers are the best of ASE 2007. We hope you enjoy them.

The Guest Editors