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Applications of Graph Transformations with Industrial Relevance

4th International Symposium, AGTIVE 2011
Budapest, Hungary, October 4-7, 2011
Revised Selected and Invited Papers



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Preface

This volume compiles all finally accepted papers presented at the 4th International Symposium on Applications of Graph Transformations with Industrial Relevance (AGTIVE 2011), which took place in October 2011 in Budapest, Hungary. The submissions underwent a thorough, two-round review process both before and after the symposium to enable the authors to carefully incorporate the suggestions of reviewers.

AGTIVE 2011 was the fourth practice-oriented scientific meeting of the graph transformation community. The aim of the AGTIVE series as a whole is to serve as a forum for all those scientists of the graph transformation community who are involved in the development of graph transformation tools and the application of graph transformation techniques usually in an industrial setting. In more detail, our intentions were to:

1. Bring the practice-oriented graph transformation community together
2. Study and integrate different graph transformation approaches
3. Build a bridge between academia and industry

The first AGTIVE symposium took place at Kerkrade, The Netherlands, in 1999. Its proceedings appeared as vol. 1779 of the Springer LNCS series. The second symposium was held in 2003 in Charlottesville, Virginia, USA. The proceedings appeared as LNCS vol. 3062. The third symposium took place in Kassel, Germany, in 2007, while the proceedings were published as LNCS vol. 5088.

AGTIVE 2011 was hosted by Budapest, the capital of Hungary, which was founded in 1873 as the unification of the separate historic towns of Buda (the royal capital since the fifteenth century), Pest (the cultural center), and Óbuda (built on the ancient Roman settlement of Aquincum). The city is bisected by the River Danube, which makes Budapest a natural geographical center and a major international transport hub. Budapest has a rich and fascinating history, a vibrant cultural heritage, yet it has managed to maintain its magic and charm. It has also been called the City of Spas with a dozen thermal bath complexes served by over a hundred natural thermal springs.

Thirty-six papers were submitted to AGTIVE 2011, which were evaluated twice by at least three reviewers. In all, 26 regular research papers, application reports, and tool demonstration papers were accepted in the first round for presentation at the symposium. These presentations covered a wide range of application areas such as model migration, software reengineering and configuration management, generation of test specifications, 3D reconstruction of plant architectures, chemical engineering, reconfiguration of self-adaptive systems, security aspects of embedded systems, and so forth. Furthermore, many contributions proposed new graph transformation concepts and implementation techniques needed to solve real-world problems in a scalable way.

In addition, two invited talks were presented at AGTIVE 2011 reporting on state-of-the-art, industrial rule-based modeling techniques and applications for business-critical applications.

- Zsolt Kocsis (IBM): “Best Practices to Model Business Services in Complex IT Environments”
- Mark Proctor (Red Hat) : “Drools: A Rule Engine for Complex Event Processing”

In the second review round, the Program Committee selected 18 submissions (of which 13 full research, two application report, and three tool demonstration papers) for publication in the proceedings. Thus, the final acceptance rate was 50%.

The AGTIVE 2011 Symposium was organized in strong collaboration between the Department of Measurement and Information Systems and the Department of Automation and Applied Informatics at the Budapest University of Technology and Economics, and the Real-Time Systems Lab at the Technical University Darmstadt. We would like to give special thanks to members of the organizing team, namely, Gábor Bergmann, Ábel Hegedüs, Ákos Horváth, László Lengyel, Gergely Mezei, István Ráth, Gábor Tóth, and Zoltán Ujhelyi. We also acknowledge the additional financial support provided by the SecureChange and the CERTIMOT projects, and the Alexander von Humboldt Foundation. The review process was administered by using the EasyChair conference management system.

July 2012

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Table of Contents

Invited Talk Abstracts

Best Practices to Model Business Services in Complex IT Environments	1
<i>Zsolt Kocsis</i>	
Drools: A Rule Engine for Complex Event Processing	2
<i>Mark Proctor</i>	

Session 1: Model-Driven Engineering

Graph Transformation Concepts for Meta-model Evolution Guaranteeing Permanent Type Conformance throughout Model Migration	3
<i>Florian Mantz, Stefan Jurack, and Gabriele Taentzer</i>	
A Graph Transformation-Based Semantics for Deep Metamodelling	19
<i>Alessandro Rossini, Juan de Lara, Esther Guerra, Adrian Rutle, and Yngve Lamo</i>	
Reusable Graph Transformation Templates	35
<i>Juan de Lara and Esther Guerra</i>	

Session 2: Graph Transformation Applications

Towards an Automated 3D Reconstruction of Plant Architecture	51
<i>Florian Schöler and Volker Steinhage</i>	
Generating Graph Transformation Rules from AML/GT State Machine Diagrams for Building Animated Model Editors	65
<i>Torsten Strobl and Mark Minas</i>	

Session 3: Tool Demonstrations

AGG 2.0 – New Features for Specifying and Analyzing Algebraic Graph Transformations	81
<i>Olga Runge, Claudia Ermel, and Gabriele Taentzer</i>	
Integration of a Pattern-Based Layout Engine into Diagram Editors	89
<i>Sonja Maier and Mark Minas</i>	

Tool Demonstration of the Transformation Judge	97
<i>Steffen Mazanek, Christian Rutetzki, and Mark Minas</i>	

Session 4: Graph Transformation Exploration Techniques

Knowledge-Based Graph Exploration Analysis	105
<i>Ismênia Galvão, Eduardo Zambon, Arend Rensink, Lesley Wevers, and Mehmet Aksit</i>	
Graph Grammar Induction as a Parser-Controlled Heuristic Search Process	121
<i>Luka Fürst, Marjan Mernik, and Viljan Mahnič</i>	
Planning Self-adaption with Graph Transformations	137
<i>Matthias Tichy and Benjamin Klöpper</i>	

Session 5: Graph Transformation Semantics and Reasoning

From Graph Transformation Units via MiniSat to GrGen.NET	153
<i>Marcus Ermler, Hans-Jörg Kreowski, Sabine Kuske, and Caroline von Totth</i>	
Locality in Reasoning about Graph Transformations	169
<i>Martin Strecker</i>	
Contextual Hyperedge Replacement	182
<i>Frank Drewes, Berthold Hoffmann, and Mark Minas</i>	

Session 6: Application Reports

The Added Value of Programmed Graph Transformations – A Case Study from Software Configuration Management	198
<i>Thomas Buchmann, Bernhard Westfechtel, and Sabine Winetzhammer</i>	
A Case Study Based Comparison of ATL and SDM	210
<i>Sven Patzina and Lars Patzina</i>	

Session 7: Bidirectional Transformations

Applying Advanced TGG Concepts for a Complex Transformation of Sequence Diagram Specifications to Timed Game Automata	222
<i>Joel Greenyer and Jan Rieke</i>	

Automatic Conformance Testing of Optimized Triple Graph Grammar Implementations	238
<i>Stephan Hildebrandt, Leen Lambers, Holger Giese, Dominic Petrick, and Ingo Richter</i>	
Author Index	255