# Table of Contents

## Invited Contributions

Distributed Information Management with XML and Web Services ........ 1  
*Serge Abiteboul*

A Formal Treatment of Context-Awareness ................................. 12  
*Gruia-Catalin Roman, Christine Julien, and Jamie Payton*

## Objects and Aspects

Consistent Adaptation and Evolution of Class Diagrams during Refinement 37  
*Alexander Egyed*

Measuring Aspect Cohesion ............................................. 54  
*Jianjun Zhao and Baowen Xu*

Refactoring Object-Z Specifications ..................................... 69  
*Tim McComb*

## Smart Cards

Checking Absence of Illicit Applet Interactions: A Case Study ............. 84  
*Marijke Huisman, Dilian Gurov, Christoph Sprenger,  
and Gennady Chugunov*

A Tool-Assisted Framework for Certified Bytecode Verification ............ 99  
*Gilles Barthe and Guillaume Dufay*

Reasoning about Card Tears and Transactions in Java Card ............... 114  
*Engelbert Hubbers and Erik Poll*

## Components I

Predictable Dynamic Plugin Systems .................................... 129  
*Robert Chatley, Susan Eisenbach, Jeff Kramer, Jeff Magee,  
and Sebastian Uchitel*

A Correlation Framework for the CORBA Component Model ................ 144  
*Georg Jung, John Hatcliff, and Venkatesh Prasad Ranganath*

Cadena: An Integrated Development Environment for Analysis, Synthesis,  
and Verification of Component-Based Systems ....................... 160  
*Adam Childs, Jesse Greenwald, Venkatesh Prasad Ranganath,  
Xianghua Deng, Matthew Dwyer, John Hatcliff, Georg Jung,  
Prashant Shanti, and Gurdip Singh*
## Security and Web Services

Actor-Centric Modeling of User Rights .............................................. 165  
*Ruth Breu and Gerhard Popp*

Modeling Role-Based Access Control Using Parameterized UML Models . 180  
*Dae-Kyoo Kim, Indrakshi Ray, Robert France, and Na Li*

Compositional Nested Long Running Transactions .............................. 194  
*Laura Bocchi*

DaGen: A Tool for Automatic Translation  
from DAML-S to High-Level Petri Nets ........................................... 209  
*Daniel Moldt and Jan Ortmann*

## Modeling and Requirements

Integrating Meta-modelling Aspects with Graph Transformation  
for Efficient Visual Language Definition and Model Manipulation ....... 214  
*Roswitha Bardohl, Hartmut Ehrig, Juan de Lara, and Gabriele Taentzer*

An Operational Semantics for Stateflow ............................... 229  
*Grégoire Hamon and John Rushby*

Improving Use Case Based Requirements  
Using Formally Grounded Specifications ........................................ 244  
*Christine Choppy and Gianna Reggio*

The GOPCSD Tool: An Integrated Development Environment  
for Process Control Requirements and Design ............................ 261  
*Islam A.M. El-Maddah and Tom S.E. Maibaum*

## Testing

Automated Debugging Using Path-Based Weakest Preconditions .......... 267  
*Haifeng He and Neelam Gupta*

Filtering TOBIAS Combinatorial Test Suites ................................ 281  
*Yves Ledru, Lydie du Bousquet, Olivier Maury, and Pierre Bontron*

Systematic Testing of Software Architectures in the C2 Style .......... 295  
*Henry Muccini, Marcio Dias, and Debra J. Richardson*

## Model Checking and Analysis

Optimising Communication Structure for Model Checking ................. 310  
*Peter Saffrey and Muffy Calder*
Translating Software Designs for Model Checking ......................... 324  
*Fei Xie, Vladimir Levin, Robert P. Kurshan, and James C. Browne*

Enhancing Remote Method Invocation through Type-Based Static Analysis .................................................. 339  
*Carlo Ghezzi, Vincenzo Martena, and Gian Pietro Picco*

Specification and Analysis of Real-Time Systems Using Real-Time Maude . 354  
*Peter Csaba Ölveczky and José Meseguer*

**Components II**

A Systematic Methodology for Developing Component Frameworks ...... 359  
*Si Won Choi, Soo Ho Chang, and Soo Dong Kim*

Automating Decisions in Component Composition Based on Propagation of Requirements .......................... 374  
*Ioana Șora, Vladimir Crețu, Pierre Verbaeten, and Yolande Berbers*

**Author Index** ................................................................. 389
Fundamental Approaches to Software Engineering
7th International Conference, FASE 2004, Held as Part
of the Joint European Conferences on Theory and
Practice of Software, ETAPS 2004, Barcelona, Spain,
March 29 - April 2, 2004, Proceedings
Wermelinger, M.; Margaria-Steffen, T. (Eds.)
2004, XIII, 389 p., Softcover
ISBN: 978-3-540-21305-5