Table of Contents

Invited Talk 1

Agile Processes: Developing Your Own “Secret Recipes” .......... 1
   Peter Coad

Practical Model Management

Difference and Union of Models ........................................ 2
   Marcus Alanen, Ivan Porres

GREAT: UML Transformation Tool for
Porting Middleware Applications ......................................... 18
   Alexander Christoph, Matthias M. Müller

Model-Centric Engineering with the Evolution
and Validation Environment ............................................. 31
   Jörg Guy Süß, Andreas Leicher, Herbert Weber, Ralf-D. Kutsche

Time and Quality of Service

Representing Temporal Information in UML ............................ 44
   Jordi Cabot, Antoni Olivé, Ernest Teniente

Formal Semantics of UML with Real-Time Constructs ............. 60
   Subash Shankar, Sinan Asa

A QoS-Oriented Extension of UML Statecharts ..................... 76
   David N. Jansen, Holger Hermanns, Joost-Pieter Katoen

Short Tool Papers

CheckVML: A Tool for Model Checking Visual Modeling Languages 92
   Ákos Schmidt, Dániel Varró

A Workbench to Experiment on New Model
Engineering Applications ............................................. 96
   Ralph-Johan Back, Dag Björklund, Johan Lilius, Luka Milovanov,
   Ivan Porres

ProGUM-Web: Tool Support for Model-Based Development of
Web Applications ....................................................... 101
   Marc Lohmann, Stefan Sauer, Tim Schattkowsky
## Composition and Architecture

On the Key Role of Compositioning Object-Oriented Modelling ........ 106  
*Friedrich Steimann, Jens Gößner, Thomas Mück*

Compositional and Relational Reasoning during Class Abstraction ...... 121  
*Alexander Egyed*

Encoding Informal Architectural Descriptions with UML:  
An Experience Report .................................................. 138  
*Yaojin Yang, Jianli Xu*

### Inivited Talk 2

UML/MDA Reality Check: Heterogenous Architecture Style ............ 143  
*Nicolas F. Rouquette*

## Transformation

Towards Automating Source-Consistent UML Refactorings ............ 144  
*Pieter Van Gorp, Hans Stenten, Tom Mens, Serge Demeyer*

Model Refactorings as Rule-Based Update Transformations .......... 159  
*Ivan Porres*

Reflective Model Driven Engineering .................................. 175  
*Jean Bézivin, Nicolas Farcet, Jean-Marc Jézéquel, Benoît Langlois,  
Damien Pollet*

## The Web

A Model-Driven Runtime Environment for Web Applications .......... 190  
*Joerg Pleumann, Stefan Haustein*

Using UML and XMI for Generating Adaptive Navigation Sequences in  
Web-Based Systems .......................................................... 205  
*Peter Dolog, Wolfgang Nejdl*

Platform Independent Web Application Modeling ........................ 220  
*Pierre-Alain Muller, Philippe Studer, Jean Bézivin*

## Testing and Validation

Rigorous Testing by Merging Structural and Behavioral UML Representations .................................................. 234  
*Orest Pilskalns, Anneliese Andrews, Sudipto Ghosh, Robert France*

Towards Automated Support for Deriving Test Data from UML Statecharts .................................................. 249  
*Lionel C. Briand, Jim Cui, Yvan Labiche*
Validation of UML and OCL Models by Automatic Snapshot Generation .............................................. 265
  Martin Gogolla, Jörn Bohling, Mark Richters

Improving UML/OCL
A Critique of UML’s Definition of the Use-Case Class .................. 280
  Sadahiro Isoda
Modelling Database Views with Derived Classes in the UML/OCL-Framework ............................................ 295
  Hermann Balsters
An OCL Extension for Low-Coupling Preserving Contracts ............. 310
  Isabel Nunes

Invited Talk 3
What Is the Point of the UML? .................................................. 325
  Martin Fowler

Consistency
Using Description Logic to Maintain Consistency between UML Models .................................................... 326
  Ragnhild Van Der Straeten, Tom Mens, Jocelyn Simmonds,
  Viviane Jonckers
Modeling and Testing Legacy Data Consistency Requirements .......... 341
  Jan Pettersen Nytun, Christian S. Jensen
The Consistency Workbench: A Tool for Consistency Management in UML-Based Development ................................. 356
  Gregor Engels, Reiko Heckel, Jochen M. Küster

Methodology
Developing Safety-Critical Systems with UML .......................... 360
  Jan Jürjens
Consistent and Complete Access Control Policies in Use Cases ........ 373
  Khaled Alghathbar, Duminda Wijesekera
STAIRS - Steps to Analyze Interactions with Refinement Semantics . 388
  Øystein Haugen, Ketil Stølen

Workshops and Tutorials
Workshops at the UML 2003 Conference ................................... 403
  Ana Moreira
UML 2003 -- The Unified Modeling Language, Modeling Languages and Applications
6th International Conference San Francisco, CA, USA, October 20-24, 2003, Proceedings
Stevens, P.; Whittle, J.; Booch, G. (Eds.)
2003, XIV, 418 p., Softcover
ISBN: 978-3-540-20243-1