

László Böszörményi Peter Schojer (Eds.)

Modular Programming Languages

Joint Modular Languages Conference, JMLC 2003
Klagenfurt, Austria, August 25-27, 2003
Proceedings



Springer

Table of Contents

Invited Talks

The Essence of Programming Languages	1
<i>Niklaus Wirth</i>	
Safe Code – It’s Not Just for Applets Anymore	12
<i>Michael Franz</i>	
Computing with Distributed Resources	23
<i>Young-ri Choi, Siddhartha Rai, Vinay Sampath Kumar, Jayadev Misra, Harriek Vin</i>	
The Verifying Compiler: A Grand Challenge for Computing Research	25
<i>Tony Hoare</i>	
Evolving a Multi-language Object-Oriented Framework: Lessons from .NET	36
<i>Jim Miller</i>	

Architectural Concepts and Education

The KITE Application Server Architecture	37
<i>Josef Templ</i>	
Compiler Support for Reference Tracking in a Type-Safe DSM	49
<i>Ralph Goeckelmann, Stefan Frenz, Michael Schoettner, Peter Schulthess</i>	
Caste: A Step beyond Object Orientation	59
<i>Hong Zhu, David Lightfoot</i>	
Distributed XML Objects	63
<i>Paul Roe</i>	
Programming Education: A Russian Perspective	69
<i>Fyodor Tkachov</i>	

Component Architectures

Towards an Adaptive Distributed Multimedia Streaming Server Architecture Based on Service-Oriented Components	78
<i>Roland Tusch</i>	
A Layered Type System for Re-entrance Control	88
<i>Simon Kent</i>	

A Practical Approach to Software Portability Based on Strong Typing and Architectural Stratification	98
<i>Andrey Koltashev</i>	

Object Life-Cycle Management in a Highly Flexible Middleware System	102
<i>Karl Blümlinger, Christof Dallermassl, Heimo Haub, Philipp Zambelli</i>	

Fighting Class Name Clashes in Java Component Systems	106
<i>Petr Hnětynka, Petr Tůma</i>	

Language Concepts

Real-Time Systems Development Using Hierarchical State Machines	110
<i>Angelo Furfaro, Libero Nigro, Francesco Pupo</i>	

Classboxes: A Minimal Module Model Supporting Local Rebinding	122
<i>Alexandre Bergel, Stéphane Ducasse, Roel Wuyts</i>	

Zonnon for .NET – A Language and Compiler Experiment	132
<i>Jürg Gutknecht, Eugene Zueff</i>	

Safely Extending Procedure Types to Allow Nested Procedures as Values	144
<i>Christian Heinlein</i>	

Frameworks and Design Principles

Leveraging Managed Frameworks from Modular Languages	150
<i>K. John Gough and Diane Corney</i>	

Systems = Components + Languages: Building a Flexible Real-Time Simulation and Test Environment	163
<i>Brian Kirk, Stuart Doyle, Toby Harris, Tom Priestley</i>	

Event Library: An Object-Oriented Library for Event-Driven Design	174
<i>Volkan Arslan, Piotr Nienaltowski, Karine Arnout</i>	

Controlling Access to Distributed Object Frameworks	184
<i>Karl Blümlinger, Christof Dallermassl, Heimo Haub, Philipp Zambelli</i>	

Architectural Aspects of a Thread-Safe Graphical Component System Based on Aos	188
<i>Thomas M. Frey</i>	

Compilers and Tools

LL(1) Conflict Resolution in a Recursive Descent Compiler Generator ...	192
<i>Albrecht Wöß, Markus Löberbauer, Hanspeter Mössenböck</i>	

Graph Coloring vs. Optimal Register Allocation for Optimizing Compilers	202
<i>Ulrich Hurnschrott, Andreas Krall, Bernhard Scholz</i>	
A Source-to-Source Architecture for User-Defined Optimizations	214
<i>Markus Schordan, Dan Quinlan</i>	
An Oberon Linker for an Imperfect World – More Notes on Building Your Own Tools	224
<i>Paul Reed</i>	
Formal Aspects and Reflective Programming	
Language Definition in the Schütz Semantic Editor	229
<i>Rodney M. Bates</i>	
Demand-Driven Specification Partitioning	241
<i>Roland T. Mittermeir, Andreas Bolln</i>	
Source-to-Source Transformation in the Large	254
<i>Thomas Genssler, Volker Kutruff</i>	
Metaprogramming Library for the C# Programming Language	266
<i>Gergely Kis, József Orosz, Márton Pintér, Zoltán László, Thomas Genssler</i>	
Author Index	271