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Preface

For over two decades the International Conference on Software Reuse (ICSR) has been the premier event in the field of software reuse research and technology. The theme of ICSR 2013 was “Safe and Secure Reuse.” Although reuse has been routinely practiced in many domains for several decades, its take-up has been slow in mission-critical domains owing to real and perceived problems in guaranteeing safety and security. However, this is changing as practitioners and researchers in these domains are seeking to reap the economic and quality benefits of systematic reuse.

In the automotive domain, the AUTOSAR architecture promises to deliver wide-scale component reuse, and the recent ISO 26262 standard for the safety of automotive electronic systems defines an explicit scheme for component reuse. In the aeronautics and space domains, standards efforts are seeking approaches for component level certification. Keynote speaker John McDermid of the University of York spoke on the important topic of certification – noting that while code production costs only amount to around 5-10% of the development costs, verification and validation in support of certification is circa 50% of the costs – in his talk on “Safe Reuse: Certification of Software Product Lines in Civil Aerospace.”

Builders of mission-critical systems everywhere are looking to COTS to save on costs, but need to ensure the safety and security of those systems. The co-located Third International Workshop on Security and Dependability in Resource Constrained Embedded Systems focused on the combination of model-driven engineering with reusable pattern-based representation of security and dependability solutions, whereas the co-located International Workshop on Critical Software Component Reusability and Certification Across Domains narrowed the focus to the emerging area of compositional certification of component-based systems.

Despite the special focus on mission-critical reuse in this edition of the conference, the foundational issues in software reuse that are the lifeblood of ICSR were fully represented. Keynote speaker Ivar Jacobson, one of the founding fathers of much of software reuse as it is practiced today, recounted his work in the Software Engineering Method and Theory (SEMAT) community – where a kernel of essential software development elements has been distilled that is effectively a reusable methodology base – in his talk on “Creating Your Reuse Method from Reusable Practices and a Method Kernel.” The co-located International Workshop on Designing Reusable Components and Measuring Reusability addressed issues that lie at the very core of software reuse practice.
The goal of ICSR is not only to present the most recent advances in the area of software reuse but also to promote an intensive and continuous exchange among researchers and practitioners. The panel discussion led by General Chair Martin Griss on “Software Reuse: Is Research Delivering for Industry?” attested to the vibrancy of the software reuse community today.

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Table of Contents

Feature Modeling and Variability Analysis

Validating Consistency between a Feature Model and Its Implementation .................................................. 1
   Duc Minh Le, Hyesun Lee, Kyo Chul Kang, and Lee Keun

Mechanisms to Handle Structural Variability in MATLAB/Simulink Models ........................................................ 17
   Andrea Leitner, Wolfgang Ebner, and Christian Kreiner

An Analysis of Variability Modeling Concepts: Expressiveness vs. Analyzability .................................................... 32
   Holger Eichelberger, Christian Kröher, and Klaus Schmid

Reuse and Testing

Towards Test Case Reuse: A Study of Redundancies in Android Platform Test Libraries .............................................. 49
   Suriya Priya R. Asaithambi and Stan Jarzabek

An Assessment of Test-Driven Reuse: Promises and Pitfalls ............. 65
   Mehrdad Nurolahzade, Robert J. Walker, and Frank Maurer

Improving the Runtime-Processing of Test Cases for Component Adaptation ........................................................ 81
   Dominic Seiffert and Oliver Hummel

Architecture and Reuse

REARM: A Reuse-Based Economic Model for Software Reference Architectures ......................................................... 97
   Silverio Martínez-Fernández, Claudia P. Ayala, Xavier Franch, and Helena Martins Marques

Cross-Domain Reuse: Lessons Learned in a Multi-project Trajectory .... 113
   Silvia Mazzini, John Favaro, and Tullio Vardanega

Automatic Analysis of Software Architectures with Variability ............ 127
   Gustavo G. Pascual, Mónica Pinto, and Lídia Fuentes

On Software Reference Architectures and Their Application to the Space Domain ....................................................... 144
   Marco Panunzio and Tullio Vardanega
Analysis for Reuse

Automated Analysis in Feature Modelling and Product Configuration .......................................................... 160
David Benavides, Alexander Felfernig, José A. Galindo, and Florian Reinfrank

Configurable Software Product Lines – Supporting Heterogeneous Configuration Knowledge ...................... 176
Elder Cirilo, Uirá Kulesza, Alessandro Garcia, Don Cowan, Paulo Alencar, and Carlos Lucena

Extracting Models from ISO 26262 for Reusable Safety Assurance ...... 192
Yaping Luo, Mark van den Brand, Luc Engelen, John Favaro, Martijn Klabbers, and Giovanni Sartori

Assessing Software Quality through Web Comment Search and Analysis ......................................................... 208
Yanzhen Zou, Changsheng Liu, Yong Jin, and Bing Xie

Consistency among Domain Analysts in Selecting Domain Documents and Creating Vocabularies .................. 224
Chaitanya Nemmallapudi, William B. Frakes, and Reghu Anguswamy

Mining Cohesive Domain Topics from Source Code ..................... 239
Bing Xie, Meng Li, Jing Jin, Junfeng Zhao, and Yanzhen Zou

Reuse and Patterns

Mining Instances of Structural Design Patterns from Class Diagrams Based on Sub-patterns .............................. 255
Dongjin Yu, Zhiqing Liu, and Jianlin Ge

Patterns for Use Case Context and Content ........................................ 267
Marinos Georgiades and Andreas Andreou

Short Papers

A Common Representation for Reuse Assistants ....................... 283
Fábio P. Basso, Cláudia Maria Lima Werner, Raquel Mainardi Pillat, and Toacy Cavalcante Oliveira

A Knowware Based Infrastructure for Rule Based Control Systems in Smart Spaces ................................. 289
Yangyang Lu, Ge Li, Zhi Jin, Xueyuan Xing, and Yiyang Hao
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>An Action-Stack Based Selective-Undo Method in Feature Model</td>
<td>295</td>
</tr>
<tr>
<td>Li Long, Zhao Haiyan, Zhang Wei, and Wang Weichao</td>
<td></td>
</tr>
<tr>
<td>Feature Location in a Collection of Software Product Variants Using</td>
<td>302</td>
</tr>
<tr>
<td>Formal Concept Analysis</td>
<td></td>
</tr>
<tr>
<td>Ra’Fat AL-Msie’deen, Abdelhak Seriai, Marianne Huchard,</td>
<td></td>
</tr>
<tr>
<td>Christelle Urtado, Sylvain Vauttier, and Hamzeh Eyal Salman</td>
<td></td>
</tr>
<tr>
<td>A Language for Building Verified Software Components</td>
<td>308</td>
</tr>
<tr>
<td>Gregory Kulczycki, Murali Sitaraman, Joan Krone,</td>
<td></td>
</tr>
<tr>
<td>Joseph E. Hollingsworth, William F. Ogden,</td>
<td></td>
</tr>
<tr>
<td>Bruce W. Weide, Paolo Bucci, Charles T. Cook,</td>
<td></td>
</tr>
<tr>
<td>Svetlana V. Drachova-Strang, Blair Durkee, Heather Harton,</td>
<td></td>
</tr>
<tr>
<td>Wayne Heym, Dustin Hoffman, Hampton Smith,</td>
<td></td>
</tr>
<tr>
<td>Yu-Shan Sun, Aditi Tagore, Nighat Yasmin, and Diego Zaccai</td>
<td></td>
</tr>
<tr>
<td>Emerging Ideas and Trends</td>
<td></td>
</tr>
<tr>
<td>Estimating the Economic Value of Reusable Green ICT Practices</td>
<td>315</td>
</tr>
<tr>
<td>Qing Gu and Patricia Lago</td>
<td></td>
</tr>
<tr>
<td>Composition and Self-Adaptation of Service-Based Systems with Feature</td>
<td>326</td>
</tr>
<tr>
<td>Models</td>
<td></td>
</tr>
<tr>
<td>Javier Cubo, Nadia Gamez, Lidia Fuentes, and Ernesto Pimentel</td>
<td></td>
</tr>
<tr>
<td>Leveraging Reuse-Related Maturity Issues for Achieving Higher Maturity</td>
<td>343</td>
</tr>
<tr>
<td>Luigi Buglione, Giuseppe Lami, Christiane Gresse von Wangenheim,</td>
<td></td>
</tr>
<tr>
<td>Fergal Mc Caffery, and Jean Carlo Rossa Hauck</td>
<td></td>
</tr>
<tr>
<td>Appendix: ICSR 2013 Workshop Summaries</td>
<td>356</td>
</tr>
<tr>
<td>Davide Falessi</td>
<td></td>
</tr>
<tr>
<td>Author Index</td>
<td>361</td>
</tr>
</tbody>
</table>