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Transactions on Aspect-Oriented Software Development IX

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Gary T. Leavens

University of Central Florida

Department of Electrical Engineering and Computer Science

4000 Central Florida Boulevard, Orlando, FL 32816-2362, USA

E-mail: leavens@eeecs.ucf.edu

Shigeru Chiba

The University of Tokyo

Graduate School of Information Science and Technology

7-3-1 Hongo, Bunkyo-ku, Tokyo 113-8656, Japan

E-mail: chiba@chibas.net

Guest Editors

Michael Haupt

Oracle Labs, Potsdam, Germany

E-mail: michael.haupt@hpi.uni-potsdam.de

Klaus Ostermann

University of Marburg, Germany

E-mail: kos@informatik.uni-marburg.de

Eric Wohlstadter

University of British Columbia, Vancouver, BC, Canada

E-mail: wohlstad@cs.ubc.ca

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Editorial

Welcome to Volume IX of the Transactions on Aspect-Oriented Software Development. This volume has three regular papers and four papers submitted to special sections.

The first paper, “Domain-Driven Discovery of Stable Abstractions for Point-cut Interfaces”, presents a novel top-down method for designing reusable point-cut interfaces from stable domain abstractions. This paper is an extension of its authors’ earlier paper presented at the AOSD 2009 conference. The second paper, “Aspect of Assembly: From Theory to Performance”, deals with temporal requirements for dynamic adaptation. Dynamically adapting a running system is not an instant; so we have to consider the response time of component re-assemblies or weaving processes. The third paper, “Dynamic Aspect-Oriented Programming in Java: The HotWave Experience”, is also on dynamic adaption. It presents a dynamic aspect weaver for Java. Although the weaver presented is compatible with the standard JVM, it nevertheless supports comprehensive aspect weaving.

The rest of the papers are in special sections. Each section has two papers. We thank the guest editors for their effort in producing such high-quality special sections. The first special section is on Modularity in Systems Software, guest edited by Michael Haupt and Eric Wohlstadter. It highlights recent modularity issues on system software and middleware and it shows original and innovative techniques and concepts related to those issues. The second special section is on Modularity Constructs in Programming Languages, edited by Klaus Ostermann and Gary Leavens. It focuses on modern programming language constructs for modularity.

We thank the editorial board for their continued guidance and input on the policies of the journal, the choice of special issues, and associate-editorship of regular submissions. Also thanks to the reviewers, who volunteer significant time despite their busy schedules, to ensure the quality of articles in the journal. Most importantly, we wish to thank all the authors who have submitted papers to the journal so far.

September 2012

Gary T. Leavens
Shigeru Chiba
Editors-in-Chief

Modularity in Systems Software

Guest Editors' Foreword

Systems software, comprising artifacts ranging from middleware servers over virtual machines and operating systems to hardware descriptions, typically bear great inherent complexity. This complexity often manifests itself as intricate relationships between logical modules of such systems that are seldom clearly expressed in source code or architecture descriptions. In the various areas mentioned above, different strategies are being developed to cope with the arising modularity issues. This special section set out to present a broad overview of approaches to modularity in systems software, illustrated by articles of archival nature presenting mature work.

The call for contributions attracted six submissions. Three reviews were collected per submission, and two papers were accepted for publication after revisions. As this number does not reflect the breadth of the topic, we hope to further raise awareness of modularity research in systems software by means of related workshops and conference tracks: it is still an emerging subject, and the pioneering papers in this special section should motivate further research.

September 2012

Michael Haupt
Eric Wohlstadter
Guest Editors

Modularity Constructs in Programming Languages Guest Editors' Foreword

The modularity mechanisms directly supported by programming languages have a major influence on the decompositions developers choose for their software. They are also often the most direct way to phrase a novel modularity idea.

The call for contributions attracted five submissions, from which two were accepted after an elaborate review process. We hope that this special issue will trigger more research on this exciting and important topic.

September 2012

Gary T. Leavens
Klaus Ostermann
Guest Editors

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