

Adaptive and Evolvable Software Systems: Techniques, Tools, and Applications

Jeff Gray
Univ. of Alabama at Birmingham
Dept. of Computer and Information
Sciences
Birmingham, Alabama USA
gray(at)cis.uab.edu

Raymond Klefstad
Univ. of California, Irvine
Dept. of Electrical Engineering and
Computer Science
Irvine, California USA
klefstad(at)uci.edu

Yvonne Coady
Univ. of Victoria
Dept of Computer Science
Victoria, British Columbia, Canada
ycoady(at)cs.uvic.ca

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Software's ability to adapt is typically performed at two different stages: modifiability during development, and adaptation during execution. The first type of adaptation is concerned with design-time, or compile-time, techniques that permit the modification of the structure and function of a software representation in order to address changing stakeholder requirements. The second type of adaptation occurs at run-time during the execution of the program. This type of adaptation refers to a system's ability to modify itself and to respond to changing conditions in its external environment.

The Adaptive and Evolvable Software Systems (AESS) mini-track contains papers that address both of these stages. The mini-track will appeal to those with interests in Generative Programming, Meta-programming and Reflection, Aspect-Oriented Software Development, Adaptive and Reflective Middleware, and Model-Driven approaches.

The first session of AESS contains papers that address topics related to extensibility and configurability. The best paper nomination goes to, *RiverInk – An Extensible Framework for Multimodal Interoperable Ink* by Jonathan Neddenriep and William Griswold, from UC San Diego. The second paper is *Composable Language Extensions for Computational Geometry: a Case Study* by Eric Van Wyk and Eric Johnson from the University of Minnesota. The third paper in this session is *Driving component composition from early stages using aspect-oriented techniques* by Pedro J Clemente, Juan Hernández and Fernando Sánchez from the University of Extremadura. (Spain). Finally, this session is closed with *Model-oriented Configuration Management for Multi-level Architectural Evolution* by Tien Nguyen from Iowa State University.

The second session of this mini-track focuses on adaptability. The session begins with *Adaptive Systems Require Adaptive Support - When Tools Attack!* By Jennifer Baldwin, and Yvonne Coady from the University of Victoria. Then, *Building a Coordination Framework to Support Behavior-based Adaptive Checkpointing for Open Distributed Embedded Systems* by Nianen Chen and Shangping Ren, from Illinois Institute of Technology will be presented. Finally, a paper on *A Constrained Executable Model of Dynamic System Reconfiguration* by D'Arcy Walsh, Francis Bordeleau, and Bran Selic from Carleton University closes the session. This session will end with panel discussion where attendees will be encouraged to participate in all of the issues uncovered during the mini-track.

The AESS mini-track received 13 full submissions. The organizers would like to acknowledge the following individuals for their assistance in reviewing the submissions: Raghu Reddy, Daniel Lohmann, Chris Matthews, Walter Cazzola, Rajeev Raje, Fei Cao, Marjan Mernik, Katrina Falkner, Segio Soares, Venkita Subramonian, Jean-Marie Favre, and Celina Gibbs.