

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

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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 separation of concerns to support adaptation. Robert Boyer and William Griswold introduce work on separation of concerns in a context-aware application using an open implementation. Celina Gibbs and Yvonne Coady present an aspect-oriented approach for evolving the memory management system of a Java Virtual Machine. The third

paper of the first session is presented by Atef Bader et al., which addresses delta changes across core class hierarchies.

The second session of this mini-track begins with a paper by João Cangussu et al., which illustrates a run-time adaptable framework for data persistency. Alan Colman and Jun Han highlight their work on role-oriented methodology based on ontogenic adaptation. The contribution by Ian Gorton et al. describes work on Data Concierge to integrate data sources dynamically.

The third session contains a paper by Raul Silaghi and Alfred Strohmeier, which presents an approach allowing developers to view middleware concerns from a variety of perspectives. The final paper of the mini-track is by Gernot Schmoelzer et al., which forwards the idea of meta-data driven data persistency.

The AESS mini-track received 16 full submissions. The organizers would like to acknowledge the following individuals for their assistance in reviewing the submissions: Vander Alves, Jean Bézivin, Barrett Bryant, Fei Cao, Walter Cazzola, Eric Eide, Katrina Falkner, Geri Georg, Aniruddha Gokhale, Ralf Lämmel, Shih-hsi Liu, Marjan Mernik, Rajeev Raje, Venkita Subramonian, and Eric Wohlstadter.