



Contents lists available at ScienceDirect

# The Journal of Logic and Algebraic Programming

journal homepage: [www.elsevier.com/locate/jlap](http://www.elsevier.com/locate/jlap)



## Editorial

### Guest Editors' Foreword

The 3rd Workshop on Formal Languages and Analysis of Contract-Oriented Software<sup>1</sup> (FLACOS'09) was held in Toledo, Spain 24–25 September 2009. The main theme of the workshop was the following:

The ability to negotiate contracts for a wide range of aspects and to provide services conforming to them is a most pressing need in service-oriented architectures. High-level models of contracts are making their way into service-oriented architectures, but application developers are still left to their own devices when it comes to writing code that will comply with a contract concluded just before service provisioning. At the programming language level, contracts appear as separate concerns that cut across application logic, while analysis requires that contracts are abstracted from applications to become amenable to formal reasoning using formal language techniques. The aim of this workshop is to bring together researchers and practitioners working on language-based solutions to the above issues through formalization of contracts, design of appropriate abstraction mechanisms, and formal analysis of contract languages and software.

The series of workshops FLACOS have been initiated in 2007 as part of (and partially supported by) the Nordunet3<sup>2</sup> project COSoDIS<sup>3</sup> (“*Contract-Oriented Software Development for Internet Services*”).

The aim of the FLACOS series of workshops has always been to bring together researchers and practitioners working on formal approaches to deal with the different facets of contracts, from synthesis, transformation and refinement to the negotiation, analysis and monitoring of contracts.

#### Workshop details

The workshop attracted 27 participants from 10 different countries. The program consisted of nine regular and 6 invited papers. The papers were selected by the following programme committee:

Björn Bjurling	SICS, Sweden
Olaf Owe	University of Oslo, Norway
Gordon Pace	University of Malta, Malta (co-chair)
Anders P. Ravn	Aalborg University, Denmark
Gerardo Schneider	Chalmers   University of Gothenburg, Sweden University of Oslo, Norway (co-chair)
Valentin Valero	University of Castilla-La Mancha, Spain

This committee also made the selection for this issue, excluding its own contributions. Few papers were selected and finally four papers were accepted for publication in this special issue, showing a range of aspects of the use of contracts in computer science.

In the first paper of this issue, *Passage Retrieval in Legal Texts*, Paolo Rosso et al. investigate the use of information and passage retrieval on treaties, patents and contracts to be able to relate their formal representation to the original natural language text.

In *Contracts for Security Adaptation*, Martín and Pimentel use software adaptation as a solution to overcome the incompatibilities in interface in service-oriented architectures. In particular they propose the use of security adaptation contracts to express and adapt the security requirements of the services and their orchestration.

<sup>1</sup> <http://www.dsi.uclm.es/retics/flacos09/>.

<sup>2</sup> [http://nordunet3.org/ndn3web/main\\_page.html](http://nordunet3.org/ndn3web/main_page.html).

<sup>3</sup> <http://www.ifi.uio.no/cosodis/>

Schroeder et al. propose in *A Contract-Based Approach to Adaptivity* an approach to verify adaptive systems using reconfiguration as means of adaptation. They introduce REMITL, based on Metric Interval Temporal Logic, to specify such systems and express connectivity of components.

Finally, in *Building Distributed Controllers for Systems with Priorities*, Ben-Hafaiedh et al. specify distributed systems by using an abstract representation of components based on the BIP framework. They present two algorithms: one to ensure deadlock freedom "by construction" (by using priorities), and the other to build a distributed implementation from a global system specification.

Gordon Pace  
Department of Computer Science,  
University of Malta, Malta  
E-mail address: gordon.pace@um.edu.mt

Gerardo Schneider  
Department of Computer Science and Engineering,  
Chalmers| University of Gothenburg, Sweden  
Department of Informatics,  
University of Oslo, Norway  
E-mail address: gersch@chalmers.se