

Workshop at <<UML>> 2002

SIVOES-MONA'2002¹ Component-Based Software Engineering and Modeling Non-Functional Aspects

*October 1st, 2002
Dresden, Germany*

<http://www-verimag.imag.fr/SIVOES-MONA/>

WORKSHOP OVERVIEW

The UML proved useful for modeling classes, their behavior, and interaction. However, the UML currently does not support and foster the modeling of the non-functional aspects of an object or component as well as of some real-time aspects. Especially quality of service (QoS) contracts and components are currently poorly handled by UML.

The next major release of UML, UML 2, is on the horizon and some of the original UML concepts will be modified to better support model-based software engineering. In this context, the concept of component within UML is evolving and is becoming more abstract. In UML 1.x a component simply represented an implementation for a set of interfaces. In the proposal of the U2P group the concept of component is more aligned with state of the art component technology. In this evolving context this workshop focuses on integrating the notion of quality of service (QoS) into component models. The paradigm of real-time components (RT-components) as well as more general frameworks extending and utilizing the UML to support non-functional aspects are the topics of the workshop.

This workshop is part of a series of workshops related to OO techniques within the real-time system domain (SIVOOES at ECOOP'2000, SIVOES'2001 at ECOOP'2001, FDTRT'2001 at UML'2001 and CIUML at UML'2001).

TOPICS

The workshop aims to bring together experts from academia and industry to consider software engineering issues related to applying UML for component-based development of real-time systems. The following is a partial list of topics that are expected to be covered by the workshop:

- ▶ Models of hard and soft RT-components;
- ▶ RT components and QoS (contracts) modeling;
- ▶ Specification of non-functional aspects (QoS, performance, throughput, fault tolerance, availability, security, etc) in UML;
- ▶ Management of a component;
- ▶ Code generation for components;
- ▶ CBSE methods with a focus on non-functional properties;
- ▶ Managing RT-component evolution throughout the development process;
- ▶ Validation of RT-components;
- ▶ Components & contracts in UML;
- ▶ Modeling the realization of non-functional aspects as - crosscutting concerns in the spirit of AOP/AOD;
- ▶ Modeling the realization of non-functional aspects using patterns, collaborations, and model composition;
- ▶ Integration of non-functional aspects in the OMG's MDA.

¹ Specification, Implementation and Validation of Object-oriented Embedded Systems – Modeling Non-functional Aspects

SUBMISSIONS

Each participant has to submit a position paper, of 5-10 pages length (10 pt., single space), in one of the following file formats: plain text, postscript, pdf or word. Every submitted paper will be formally reviewed by the workshop organizers. The paper should address one of the discussion topics mentioned above. At least, every submission must clearly state how it relates to this workshop.

Accepted submissions will be placed on the workshop web site. The results of the workshop and extended versions of some position papers will be considered for publication in a suitable technical journal following an agreement with an interested publisher.

Submission e-mail: sivoes@imag.fr

PRE-WORKSHOP ACTIVITIES

Since the time in the workshop should be spent as efficiently as possible we will publish the accepted position papers in advance on our web site. We expect that every participant has studied the papers before the workshop starts.

We will implement a mailing list whereby we will suggest and find out key discussions points prior to the workshop.

FORMAT OF THE WORKSHOP

A workshop is not a sequence of lectures. Therefore, every participant should actively contribute to the discussions during the workshop. The workshop will consist of two parts.

First, the workshop organizers will select 2 or 3 of the submitted position papers to introduce the workshop subject and initiate discussions. In the second part, separate focus groups will be formed to investigate individual topics. The set of topics will be provided by the organizers to all participants prior to the workshop to allow preparation for the discussions. Each working group will then summarize their conclusions and will present them to the plenary group at the conclusion of the workshop.

FINAL DELIVRABLE

The final deliverable will be a report that summarizes the discussions and conclusions of the workshop. This document will be circulated among all participants. Additionally, it is intended to submit it for journal publication.

IMPORTANT DATES

Submission deadline: 15 August 2002 (deadline extended)

Notification date: 1 September 2002

Workshop date: 1 October 2002

ORGANIZERS

Sébastien GERARD

CEA - Centre d'Etudes de Saclay

F-91191 Gif sur Yvette Cedex

France

Phone : +33 (0)1 69 08 62 59

FAX : +33 (0)1 69 08 83 95

E-mail: Sebastien.Gerard@cea.fr

Ileana OBER

VERIMAG - Centre Equation
2, Avenue de Vignate
38610 GIERES - FRANCE
Phone : 33 4.76.63.48.57
Fax : 33 4.76.63.48.18
E-mail: ileana.ober@imag.fr

George A. Papadopoulos

Department of Computer Science
University of Cyprus
75 Kallipoleos Street
POB 20537
CY-1678, Nicosia
Cyprus
E-Mail: george@cs.ucy.ac.cy

Noël Plouzeau

IRISA/IFSIC
Campus de Beaulieu
35042 Rennes Cedex
FRANCE
Tel +33 2 99 84 71 89
Fax +33 2 99 84 71 71

E-mail: Noel.Plouzeau@irisa.fr

Laurent RIOUX

THALES Research and Technology
Advance Software Department
Domaine de Corbeville
91404 Orsay cedex - France
Phone: + 33 (0)1 69 33 00 52
Fax : +33 (0)1 69 33 08 65
E-mail: laurent.rioux@thalesgroup.com

Bran SELIC

Rational Software
Ottawa, Canada
E-mail: bselic@rational.com

Torben Weis

Technische Universitt Berlin
Fakultaet IV - Institut fuer
Telekommunikationssysteme
FG Intelligente Netze und Management
verteilter Systeme
Sekretariat EN6
Einsteinufer 17
10587 Berlin
GERMANY
Tel 030 / 314-79830
Fax 030 / 314-24573
Email weis@ivs.tu-berlin.de
WWW <http://ivs.tu.berlin.de>