

Call for Papers

Workshop on Visual Modeling for Software Intensive Systems (VMSIS)

at the IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC'05)

Dallas, Texas, USA, 24 September 2005

<http://vmsis05.upb.de/> (vmsis05@upb.de)

Scope

Visual modeling techniques play an important role in the design and understanding of complex, software intensive systems. Block diagrams in systems engineering and the Unified Modeling Language (UML) in software engineering, are prominent examples of such visual modeling techniques.

Recently, integrated solutions have been proposed, such as UML 2.0, which provide a set of concepts that had been originally invented for systems engineering; an example is the "capsule" notation, which stems from Real-Time Object-Oriented Modeling with an origin in the telecommunications domain. The UML now adopts the ITU standards of MSC (Message Sequence Charts) and SDL (Specification and Description Language). The SysML extension of the UML for systems engineering starts to address the question how to reflect the steadily increasing software fraction of software intensive systems. These integration efforts between the systems engineering and software engineering domains are characterized by their informal and sometimes superficial nature. To fully unleash their methodological potential in practice, however, a full semantic integration of the employed visual modeling concepts and their underlying models is required.

In addition, many software intensive systems such as telecom networks, mobile systems, smart vehicles, ubiquitous systems, sensor networks, medical applications, command and control systems are dependable systems which can impact our daily lives or safety and security of our society. Therefore, their design has to consider many dependability attributes, such as real-time, security, safety, fault tolerance, software/hardware reliability, availability, etc. Visualization is a powerful tool to assist with the challenging task of design and development of dependable software intensive systems.

This first workshop on visual modeling for software intensive systems aims at bringing together researchers and practitioners to discuss and study the application of visual modeling techniques to software intensive systems, the achieved integration between the software and systems engineering views, and the challenges of dependability.

The specific areas of interests include, but are not limited to, the following topics:

- Approaches for the visual modeling of software intensive systems, both in embedded and non-embedded domains
- Comparisons of different visual modeling approaches for software intensive systems
- Visual notations and tools for modeling system requirements (specification, analysis, and validation)
- Visualization of non-functional design goals such as dependability, security, or performance
- Visual modeling languages and methodologies for Software and Systems Architecture & Integration, including Model-Driven Architecture (MDA)
- Test and verification using semi-formal and formal visual notations
- Experience reports for the application of visual modeling approaches for software intensive systems to real life systems

Submission

The position paper must be submitted electronically as PDF via <http://vmsis05.upb.de/>. The paper submission should not exceed 8 pages and follow the IEEE Computer 8.5x11-inch style [ftp://pubftp.computer.org/Press/Outgoing/proceedings/8.5x11%20-%20Format-tiny%20files/](http://pubftp.computer.org/Press/Outgoing/proceedings/8.5x11%20-%20Format-tiny%20files/). Papers submitted to the workshop will be reviewed by peers. Accepted papers will be published in the workshop proceedings. We will also request extended versions of the best papers for publication in a planned special section of the [Journal of Visual Languages & Computing \(JVLC\)](#).

Important Dates

Paper submission deadline	20 th June 2005
Notification of acceptance	20 th July 2005
Camera-ready papers due	20 th August 2005

Workshop Chairs

Holger Giese, University of Paderborn, Germany

Ingolf H. Krüger, University of California, San Diego, USA.

Kendra M.L. Cooper, The University of Texas at Dallas, USA

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