

5th Industrial Experience in Embedded Systems Design (IEESD 2013)

Co-located with the 37th IEEE Computer Software and Applications Conference
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Goals of the Workshop

The development of systems (software and hardware) in the industrial domain is facing a continuously growing technical environment. The integration of embedded systems in such a complex sphere, the interaction of embedded systems with the environment as well as with any other arbitrary (embedded and non-embedded) systems are major questions in the design and development of large industrial systems (system-of-systems). Such technical systems range from small embedded devices up to PC-class systems and their specific requirements for the development of software have to be aligned with the need to keep up with the quality of the system over many development iterations and throughout the massive expansion of the potentially collaborating system of embedded systems.

The complexity of such huge interrelated and networked embedded systems is not yet fully supported by current development methods/processes with their technologies and accompanying tools. There are still gaps in the different development phases as well as modeling concepts for large systems as mentioned above. Dynamic traceability information starting with the requirements going into the running systems needs to be enhanced to reach a better and online analysis of the quality of such complex technical systems. The design of such huge and interrelated systems becomes even more important with the need of e.g. an early simulation for an early prediction of possible failures and bottlenecks.

Theme

The theme of this workshop is to continuously gather current requirements of complex technical systems which are highly interrelated and embedded in a complex environment. We need to analyze the environments and the possible abstractions of such environments, e. g. towards an early and highly accurate simulation of embedded system designs. Different beneficial approaches for assessing and modeling such complex embedded systems are needed and will foster the application and further development of scientific approaches in the domain of large, interrelated and networked technical systems.

Topics of Interest

Papers are expected to cover (non-restrictively) one or more of the following topics:

- Experience reports with complex embedded technical systems out of different domains
- Model-Driven Development for complex embedded systems
- Product Lines Architectures, Software Architectures for complex embedded systems
- Testing of complex embedded Systems
- Evaluation and Analysis of Software Architectures
- Adaptable, Evolvable Software and Hardware Architectures, Execution Models and Runtime Platforms
- Development Methods, Processes and Tools for complex embedded Systems
- Networking Environments
- Coupling of Devices and Enterprise Applications

Likely Participants

Researchers and practitioners in the area of complex embedded technical systems, their development, analysis, maintenance, management.

Important Dates

March 20th, 2013: Deadline for paper submission

April 21st, 2013: Decision notification (electronic)

May 5th, 2013: Camera-ready papers and registration are due

Submission

Both draft and camera-ready papers must be submitted electronically via the workshops' Submission Page, available at <http://myreview.cs.iastate.edu/IEESD2013>.

Organizers

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