MOCA'01

Workshop on Modelling of Objects, Components, and Agents

Aarhus, Denmark, August, 27-28, 2001

organised by the "Coloured Petri Net" Group at the University of Aarhus and
the "Theoretical Foundations of Computer Science" Group at the University of Hamburg

Joint with CPN'01

New Deadline for submissions: June 1, 2001 Notification of acceptance: **June 15, 2001** Deadline for final papers: **August 1, 2001** Deadline for registration: **August 1, 2001**

Scope   Topics   Programme Committee   Submissions   Registration   Programme (to appear)

The use of adequate concepts at different stages of the development process is of crucial importance for the successful realisation of complex systems of interacting and reactive software and hardware components. Within this the model-based specification of applications is of special interest. Models can be built in different manners and can be regarded with respect to different aspects: techniques, methods, tools, basic principles, paradigms, resources, application areas etc.

Central and widely used structuring notions are objects, components, and agents. In Petri-net-based approaches the modelling process and its products are often directly related to these three notions. While Petri nets are already used in several areas their relation to practically used paradigms are not completely clear.

Petri nets are becoming increasingly popular in the area of software engineering, as they provide a uniform language supporting modelling, validation and verification. Their popularity is due to the fact that they capture fundamental aspects of causality, concurrency and choice in a natural and mathematically precise way without compromising readability.

Object-orientation is one of the central concepts of current distributed system development. It is now the underlying paradigm for most approaches. The fact that nowadays developers think object-oriented simplifies the step towards component and agent concepts, since both are based on the object-concept.

Component-based development is strongly related to the industrialisation of software production. The attempt is to increase productivity of software engineers by reusing components or by configuring pre-build generic components. Compositionality is a key concept for the construction of future software systems.

Agents can be seen as *the* new paradigm for software engineering, at least with respect to upcoming challenges in software engineering like the development of autonomous, mobile, and intelligent software. Agent technology is currently one of the most vibrant and active areas of research and development in computer science. Multi-agent systems and mobile agent technologies are making significant impacts upon almost all aspects of computer science.

The workshop *MOCA'01* will take place at the University of Aarhus, Denmark on August 27-28 in conjunction with CPN'01 . The workshop is organised by the "Coloured Petri Net" group of the University of Aarhus and the "Theoretical Foundations of Computer Science" group of the University of Hamburg.

Scope

Objects, components, and agents are the fundamental units to organise models. They are also fundamental concepts of the modelling process. Even though they are used in software engineering intensively, the relations and potential mutually enhancements between Petri nets and the three paradigms have not been finally covered. Therefore, the workshop will address all relations between Petri nets and objects, components, and agents with respect to modelling in general. The intention is to bring together research and application directions to have a lively mutual exchange of ideas, knowledge, view points, and experiences. The goals are to apply object-, component-, and agent-oriented concepts to improve building Petri net models (from theoretical and practical perspectives), and to apply Petri nets in the modelling of complex systems based on the three mentioned paradigms.

Topics

Contributions describing original research in topics related to Petri nets in combination with object-orientation, components, or agents addressing open problems or presenting new ideas regarding the relation of Petri nets and the three paradigms are sought. Topics of interest include but are not limited to:

- Objects
  - Object-Oriented Petri Nets
  - relation to object-oriented design (OOD)
  - relation to object-oriented programming (OOP)
  - middleware
  - design patterns
  - Unified Modeling Language (UML)
- Components
  - componentware
  - compositionality
  - verification and validation
- Agents
  - Agent-Oriented Petri Nets
  - modelling intelligence, mobility, autonomy, emotions etc.
  - use as information-, middle-, assistant-, interface-, reflective- etc. agent
  - multi-agent systems
  - agent-oriented software engineering (AOSE)
  - specific issues like negotiation, co-operation platforms, architectures, frameworks, languages etc.
- Petri nets
  - in any conceptual or practical way related to objects, components, and agents
  - comparison to other modelling techniques
  - embedding in traditional software engineering approaches

○ Modelling
  ● methodologies, paradigms, and principles
  ● applications in the area of the Internet, intranets, business objects, e-commerce, etc.
○ Tools in the fields mentioned above

Programme committee

Wil van der Aalst	**The Netherlands**	Ekkart Kindler	**Germany**
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Susanna Donatelli	**Italy**	Dan Simpson	**UK**
Nisse Husberg	**Finland**	Rüdiger Valk	**Germany**
		Tomas Vojnar	**Czech Republic**

Submissions

The program committee invites submissions of contributions (10 - 20 pages). E-mail submissions as a PostScript file or a PDF document are encouraged. Please submit to moca01@informatik.uni-hamburg.de .

Accepted papers will be included in the workshop proceedings which will appear as a technical report of the Department of Computer Science, University of Aarhus.
The papers will also be available in electronic form via the CPN Web pages at the University of Aarhus. Finally, we plan to publish some of the papers in a journal (after an additional review process).

The submissions will be evaluated by the international programme committee

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For further information about MOCA'01 contact the programme commitee by email at
moca01@informatik.uni-hamburg.de
or have a look at the
MOCA'01 homepage

Registration

To register please send an e-mail to CPNworkshop@daimi.au.dk, indicating the name, position, affiliation and e-mail address of the participant(s). The deadline for registration is August 1, 2001.

The fee is 1,000 DKK (approximately 135 EURO). This covers participation in the workshop, a copy of the proceedings, lunches, and a workshop dinner. Participants who register for both CPN'01 and MOCA'01 obtain a discount, so that the total fee becomes 2.250 DKK (approximately 300 EURO).

The fee is paid during the workshop. Unfortunately, we are not able to accept credit cards. Hence, you must pay by a check issued to the University of Aarhus or pay in cash (only DKK).

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