5th International Workshop on Interplay of Model-Driven and Component-Based Software Engineering @MoDELS

14-16 October 2018
Copenhagen, Denmark

M Comp d '18

SCOPE

Model-Driven Engineering (MDE) and Component-Based Software Engineering (CBSE) have been shown to effectively reduce software development complexity by (i) shifting the focus from source code to models and (ii) building software systems as composition of new and existing components, respectively. Moreover, the interplay of MDE and CBSE approaches is gaining recognition as a very promising means to boost the development of software systems by reducing costs and risks and shorten time-to-market. While several attempts to effectively combine MDE and CBSE have been documented, there are still unsolved clashes arising when exploiting interplay of MDE and CBSE, mostly due to mismatches in the related terminology as well as to differences in their basic essence. As satellite event of MoDELS'18, the goal of ModComp'18 is to gather researchers and practitioners to share opinions, propose solutions to open challenges and generally explore the frontiers of interweaving between MDE and CBSE.

TOPICS

Solicited topics include, but are not limited to:
- **Partial model reuse**: once individual components are modelled (interfaces and behavior), these models should be reusable in the different usage contexts of these components;
- **Model composition**: building a system model by composition of pre-existing models of individual components;
- **Component versioning:** in order to handle evolution when for instance one component is upgraded to a newer version;
- **Modelling component interaction and component behaviours**: clear separation of internal behaviour and externally visible interaction capabilities, e.g. by interface protocols;
- **Model extraction for componentization of legacy systems**: when legacy systems are componentized, generation of architectural and behavioural models from, e.g., implementation artefacts is needed in order to get full support from model-based activities such as analysis, e.g. if those components are reused in a new context. Along with implementation artefacts, other kinds of information regarding any observation of the system at runtime, such as, e.g., log files, system execution traces, traces, might need to be considered for reverse componentization;
- **Component interoperability**: in order to enable the automated construction of semantic matching and mapping between different modelling notations (e.g., component models) with emphasis on precise syntactic, protocol and operational descriptions of components;
- **Management and elicitation of model interdependencies:** to infer and support automated reasoning on the possible interdependencies between the different software models exploited throughout the software life cycle;
- **Component models evolution**: tackling challenges in component models evolution and model co-evolution which are amplified by the high degree of interchangeability typical of CBSE;
- **Model transformations in presence of third-party components**: exploring how model-driven techniques may deal with third-party components, especially concerning the preservation of system properties (both functional and extra-functional) along the involved model manipulations for e.g. analysis, code generation, etc;
- **Metamodel modularity**: reasoning on issues related to composability of (i) metamodels and (ii) views in terms of metamodel portions;
- **Composition of MDE artefacts**: analysis results, model transformations, and/or model viewpoints could take advantage of CBSE advancements in order to ease their reuse, and composition;
- **Enforcement of incrementality**: models and model manipulations to support incremental verification and validation of component-based systems;
- **Case studies & applications**: best practices applied to real world applications, lessons learned, success/failure stories in intertwining MDE and CBSE.

IMPORTANT DATES

Deadline for papers submission: 17 July, 2018
Notification of acceptance: 17 August, 2018
Camera ready: 21 August, 2018
Online pre-proceedings: 01 October, 2018
Workshop dates: 14-16 October, 2018

ORGANIZATION

Workshop organizers and chairs
Federico Ciccozzi (contact), Mälardalen University
Andreas Wortmann, RTWH Aachen University
Antonio Cicchetti, Mälardalen University

CONTACT

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WORKSHOP FORMAT AND PAPERS SUBMISSION

The workshop is organized as a full-day event with papers presentation and group discussions. ModComp'18 welcomes research papers, experience papers and tool presentations. Contributions can be:
- **Research papers** (maximum 6 pages, including figures, appendices AND references)
- **Experience reports** (maximum 6 pages, including figures, appendices AND references)
- **Position papers** (maximum 2 pages, including figures, appendices AND references)

Contributions should represent original and previously unpublished ideas that are currently not under review in any conference or journal; the workshop's language is English.
Each submitted paper undergoes a formal peer review process by a minimum of 3 Program Committee members.
Submitted papers should include authors' names, affiliations and contact information.

Contributions should be uploaded electronically via **EasyChair** according to the instructions on the workshop's website. Papers must be in the **ACM** format (link to templates on the workshop's website).

At least one author of each accepted paper must register and attend the workshop in order for the paper to be published.

SPECIAL ISSUE AT SoSym

The best papers from the workshop will be invited for submission in extended form to a special issue at SoSym. The extended papers will undergo a new reviewing process.

MÄLARDALENS HÖGSKOLA ESKILSTUNA VÄSTERÅS

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