

The Third Workshop on Behaviour Modelling - Foundations and Applications

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Recent trends in software system development point to the growing importance of behaviour modelling.

These trends are:

- The growing role of business process management and workflow;
- The growing importance of Service-Oriented as an architectural principle, with consequent emphasis on well defined interaction between software components;
- The importance of interfaces, contracts and service level agreements in defining and managing of behaviour integration both within and across organizational boundaries;
- The growing variety of business intelligence applications and their increasing complex behavioural requirements.

To meet the challenges presented by these trends we must be able to determine which behaviour modelling techniques are applicable to a given situation, and be able to use multiple techniques in combination. This requires suitable and simple compositional semantics so that the various models used to describe the behaviour of a complex system can be put together. Behaviour modelling attracts more attention as the research community understands that behaviour modelling concepts are different from programming concepts and can be used to create programming languages of the next generation.

The Third Workshop on Behaviour Modelling - Foundations and Applications brings together experts from academia and industry who are interested in

- Evaluation of goals and application area of different modelling techniques;
- Direct execution of behavioural models;
- Code generation from behavioural models;

- Usability results of different modelling techniques;
- Lessons learned from case studies with emphasis on what such cases show about how modelling can be improved;
- Composition and decomposition of behavioural models;
- Combination of different behaviour modelling approaches;
- Application of formal reasoning to behavioural models.

This workshop is already the third one in this serie. The first workshop took place in 2009 in the University of Twente, Enschede, the Netherlands [1]. The second workshop was organized in University of Pierre & Marie Curie, Paris, France, in 2010 [2]. The goal of the workshop serie is to make contributions in the area of software and systems behaviour modelling to address the demands of todays systems and applications requirements.

The first two workshops examined:

- the use Abstract State Machines for service modelling;
- some limitations of UML based behavioural approaches for needs of real-time modelling, interactive business process modelling, service-orientation and aspect-orientation;
- transformation of the UML models into formal modelling approaches (Coloured Petri Nets, pi-calculus);
- compositional behaviour modelling in business processes;
- the application of Design-by-Contract approach to modelling of collaborated distributed services;
- the use of Protocol Contracts for modelling of choreography of collaborated distributed services
- the application of Business Rules Modelling approaches for behaviour modelling of services.

The conclusion that may be drawn from the set of the papers presented at two workshops [1,2] is that the modelling of interaction and integration of system models is the most problematic aspect of behaviour modelling approaches. The challenge now is to increase understanding of these issues in the modelling community as a whole, so that we can work together towards better solutions. The Third Workshop on Behaviour Modelling - Foundations and Applications continues to examine how to analyze and classify system behaviour modelling semantics and how to use and combine behaviour modelling approaches effectively.

References

1. BM-MDA 2009: Proceedings of the First International Workshop on Behaviour Modelling in Model-Driven Architecture. ACM, New York (2009) ISBN 978-1-60558-503-1
2. BM-FA 2010: Proceedings of the Second International Workshop on Behaviour Modelling: Foundation and Applications. ACM, New York (2010) ISBN 978-1-60558-961-9