

Quovadis

IMPORTANT DATES.

Submission of papers: 31.01.2010 (Extended)
Notification of acceptance: 14.02.2010
Camera-ready paper: 01.03.2010
Workshop: 03.05.2010

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Motivation and Objectives

Modern software systems are increasingly complex and pervasive. They are often offered to clients as services, which must meet highlevel expectations in terms of predictability. They are embedded in a fluid environment that is constantly evolving, because of changes in the requirements, in the operating environment, and in usage profiles. Traditional software development processes and methods are unable to cope with the challenges posed by this setting.

State-of-the-art model-driven approaches, in particular, emphasize the use of qualitative models in the development stage and systematic transformations that generate functionally correct implementations starting from well-defined requirements. However, to take into account the requirement related to quality attributes such as performance, reliability, safety and security stochastic models can be used. These models enable probabilistic verification as well as quantitative prediction at design time. On the other hand, these models could be also used to perform runtime adaption if the need for evolution arises, the system undergoes suitable re-design, re-development, and re-deployment activities.

Different kinds of stochastic modeling techniques have been proposed to deal with these problems, and different approaches to analysis and verification are available. The use of models allows the prediction of the system quality before it is built and the understanding of the main effects of an architecture with respect to quality requirements. This prediction can be exploited to drive decisions about how to architect a software application so as to meet the quality requirements imposed on the design. Because of the limited a-priori knowledge about real-world behaviors and because of the likely changes in operational environments, however, models must evolve. Both their parameters and even their structure are likely to change, and the change in the models may imply further changes in the implementation. Thus, models must be kept alive at run time, and must be continuously refined to achieve increasingly better accuracy, by updating the relevant parameters and/or the model architecture.

Publication

Submitted papers will be reviewed by the international Program Committee and accepted on their scientific merit and relevance to the topics of the workshop. Accepted papers will be published in the ICSE companion volume. Papers should not exceed 8 pages ACM proceedings format; 10pt, single-space, double-column) and include an abstract of up to 150 words. Papers must not have been previously published or submitted elsewhere. If accepted, the paper must be personally presented at the workshop by one of the co-authors. Paper submission system is available online at: <http://www.easychair.org/conferences/?conf=quovadis2010>.

Main Topics (non exclusive)

- formal definition of quality requirements
- languages for software design modelling including quality characteristic evaluation
- quality attribute models (such as performance, dependability, power consumption).
- integration of quantitative models into model-driven approaches
- quality testing, monitoring, measurement, and experimental design
- probabilistic verification
- statistical forecasting of quality attributes
- quantitative models at runtime
- quality requirements and software design evolution
- empirical validation of testing, prototyping models, simulation for assessing design quality
- design decisions and their quality impacts
- quality and software design governance