4th Workshop on Model-based and Model-driven Software Modernization (MMSM 2018)

MMSM 2018 is the fourth edition in a series of workshops on Model-based and Model-driven Software Modernization. MMSM workshops are regularly held in conjunction with the biennial conference "Modellierung" since 2012. They are jointly organized by three working groups of the German Informatics Society GI in the Special Interest Group on Architectures. Those are concerned with long-living software systems, model-driven software development, and traceability/evolution, respectively. MMSM 2018 was held on February 21, 2018 as a satellite event of "Modellierung 2018".

MMSM gives attention to the modernization of software systems with the support of model-based and model-driven software development. Because demand for permanent changeability and improved quality properties of software systems such as performance, security, and dependability require substantial and frequent modernization measures. Such software modernization encompasses both migration to new technological platforms or other operational environments (porting) as well as modification to changing functional and non-functional requirements (maintenance or extension). Modernization becomes increasingly important the more essential software systems are for business processes and products. Since many of these systems are critical and complex, their modernization comprises the accomplishment of challenging tasks with considerable cost and risk. The use of adequate models can support software developers in mastering the complexity and controlling the risk by early assessment of quality properties. The MMSM workshop is concerned with the identification of new research directions based on the current industrial demand, the search for and discussion of suitable solution approaches, and the exchange of know-how and experience regarding model-based and model-driven techniques, methods, and tools for software modernization. It aims at bringing together scientist and practitioners and fostering discussion and knowledge transfer.

This year, the program of MMSM 2018 comprised presentations of two peer-reviewed research papers that are featured in this volume. Due to their high initial quality and a constructive reviewing process, we were able to accept all submissions, but one that had been conditionally accepted was withdrawn by the authors. They were complemented by a keynote presentation by Markus Völter and a selection of two invited talks presenting recent achievements and preliminary results from research and practical application. Furthermore, the workshop intentionally provided much space for interactive discussion and group working activities. It is planned to publish the results of those parts ex post.

We thank everybody who contributed to MMSM 2018 and the organization team of "Modellierung 2018" for their great support.

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