Model-Driven Robot Software Engineering (MORSE) 2014
Preface

December 19, 2014

Software engineering is the discipline of creating software with high quality and good reusability. Since several years, more and more standard platforms for service robots have appeared, and these platforms demand for high-quality, versatile, and reusable software. Operating systems, such as Embedded Linux, and distribution technologies, such as Web Services, have successfully been ported to these standard robotic platforms enabling the transfer of a large amount of the standard software engineering body of knowledge to robots. In particular, there is a need for Model-Driven Software Development (MDSD) for robots, because models can capture certain quality aspects of robotic software better than code, enabling simpler testing, easier verification, and finally, certification of safety-critical applications. Though code written in a classical programming language can often not be verified for relevant features, models can, because they abstract from unnecessary detail. And this highlights their potential for robotic software engineering: If robot software is ever going to be certified on the large scale, it must consist of models.

Therefore, the objective of the first international workshop on "Model-Driven Robot Software Engineering (MORSE) 2014" has been to assemble researchers from both fields, Model-Driven Software Development and Robotics, to discuss the interaction of their areas, to investigate fruitful research directions, and to identify challenges for further research. The call for papers mentioned, among others, the following research topics arising in the overlap of Software Engineering and Robotics:

- Model-Driven Software Development for Robotic Systems
- Robotic Software Platforms: Models, Processes and Tools
- Software and App Reuse for Robotics, Robot Ecosystems
- Model-Driven Quality Assurance of Robotic Systems

The workshop ran at the STAF multi-conference in York (GB), on July 21, 2014. STAF already hosts two conferences for Model-Driven Software Development,

International Conference on Model Transformation (ICMT) and International Conference on Graph Transformation (ICGT). In consequence, the workshop welcomed 20 participants, indicating a broad interest in the topic.

On its call for papers, MORSE received 9 submissions. Each paper was assigned to three reviewers who read and corrected them in two reviewing rounds, one before and one after the workshop. The idea was to give hints to the authors to achieve a high-quality publication for a post-proceedings, and not to filter out papers, because the community is young and people need to learn of each other. We thank the reviewers for their effort to investigate the papers several times and hope that this volume is interesting enough to justify a repetition of the workshop at STAF 2015 in L'Aquila/Italy.

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