EESSMod 2011
First International Workshop on Experiences and Empirical Studies in Software Modelling

Michel Chaudron\(^1\), Marcela Genero\(^2\), Silvia Abrahão\(^3\), Parastoo Mohagheghi\(^4\), Lars Pareto\(^5\)

\(^1\) LIACS – Leiden University  
Niels Bohrweg 1, 2333 CA Leiden, The Netherlands  
chaudron@liacs.nl

\(^2\) ALARCOS Research Group, University of Castilla-La Mancha  
Paseo de la Universidad 4, 13071, Ciudad Real, Spain  
Marcela.Genero@uclm.es

\(^3\) ISSI Research Group, Department of Information Systems and Computation – Universitat Politécnica de València  
Camino de Vera, s/n, 46022, Valencia, Spain  
sabrahao@dsic.upv.es

\(^4\) SINTEF and Norwegian University of Science and Technology  
Forskningsveien 1, 0373 Oslo, Norway  
parastoo.mohagheghi@sintef.no

\(^5\) Chalmers – University of Gothenburg  
Gothenburg, Sweden  
pareto@chalmers.se

Preface

Most software development projects apply modelling in some stages of development and to various degrees in order to take advantage of the many and varied benefits of it. Modelling is, for example, applied for facilitating communication by hiding technical details, analysing a system from different perspectives, specifying its structure and behaviour in an understandable way, or even for enabling simulations and generating test cases in a mode-driven engineering approach. Thus, the evaluation of modelling techniques, languages and tools is needed in order to assess their advantages and disadvantages, to ensure their applicability to different contexts, their ease of use, and other issues such as required skills and costs; either isolated or in comparison with other methods.

The need to reflect and advance on empirical methods and techniques that help improving the adoption of software modelling in industry led us to organize the first edition of the International Workshop on Experiences and Empirical Studies in Software Modelling (EESSMod 2011) that was held in conjunction with the ACM/IEEE 14th International Conference on Model Driven Engineering Languages and Systems (MoDELS 2011). The main purpose of the workshop was to bring together professionals
and researchers interested in software modelling to discuss in which way software modelling techniques may be evaluated, share experiences of performing such evaluations and discuss ideas for further research in this area. The workshop accepted both experience reports of applying software modelling in industry and research papers that describe more rigorous empirical studies performed in industry or academia.

These proceedings collect the papers presented at the Workshop. All the submitted papers were peer-reviewed by three independent reviewers. The accepted papers (5 regular papers) discuss theoretical and practical issues related to experimentation in software modelling or the use of modelling techniques in industry.

In particular, the paper by Fernández-Sáez et al. presents a controlled experiment for analysing the influence of the level of detail of UML models on the maintenance of the corresponding source code. The paper by Zugal et al. proposes a framework for assessing the impact of hierarchy on model understandability and discusses the implications for experiments investigating the impact of modularization on conceptual models. The paper by Carver et al. analyses the frequency with which empirical evaluation has been reported in the software modelling community. The results of an analysis of papers published in the MoDELS conference (from 2006-2010) showed that, of 266 papers, 195 of them (73%) performed no empirical evaluation. The paper by Leotta et al. presents an experience report on the use of a model-driven method for developing VECM-based systems in the context of two Italian companies. Finally, the paper by Cadavid et al. proposes a process for analysing meta-models expressed using MOF and OCL and reports on the pre-processing of 52 meta-models in order to get them ready for automatic empirical analysis.

We would like to thank the authors for submitting their papers to the Workshop. We are also grateful to the members of the Program Committee for their efforts in the reviewing process, and to the MoDELS2011 organizers for their support and assistance during the workshop organization. More details on the Workshop are available at http://www.eesmod.org.

Leiden, Ciudad Real, Valencia, Oslo, Gothenburg
28 September 2011

Michel Chaudron
Marcela Genero
Silvia Abrahão
Parastoo Mohagheghi
Lars Pareto
Program Committee

Bente Anda, University of Oslo, Norway
Teresa Baldasarre, Universita' Degli Studi di Bari, Italy
Narasimha Bolloju, University of Hong Kong, China
Lionel Briand, Simula Research Laboratory, Norway
Danilo Caivano, Universita' Degli Studi di Bari, Italy
Karl Cox, University of Brighton, UK
Jose Antonio Cruz-Lemus, University of Castilla-La Mancha, Spain
H. Eichelberger, Universitat Hildesheim, Germany
Felix Garcia, University of Castilla-La Mancha, Spain
Carmine Gravino, University of Salerno, Italy
Torchiano Marco, Politecnico di Torino, Italy
Jan Mendling, Humboldt-University Berlin, Germany
James Nelson, Southern Illinois University, USA
Ariadi Nugroho, LIACS, Leiden University, The Nederlands
Jeffrey Parson, Memorial University of Newfoundland, Canada
Keith Phalp, Bournemouth University, UK
Geert Poels, University of Ghent, Belgium
Jan Recker, Queensland University of Technology, Australia
Giuseppe Scaniello, Universita' Degli Studi della Basilicata, Italy
Samira Si-Said Cherfi, CEDRIC-CENAM
Keng Siau, University of Nebraska-Lincoln, USA
Dag Sjøberg, University of Oslo, Norway
Sara Sprenkle, Washington & Lee University, USA
Miroslaw Staron, University of Gothenburg, Sweden
Content

Preface i

Program committee iii

What do 449 MDE Practitioners Think About MDE? (Keynote Speech) 1
Jon Whittle

Does the Level of Detail of UML Models Affect the Maintainability of
Source Code? ................................................................. 3
A. M. Fernández-Sáez, M. Genero and M. R.V. Chaudron

Assessing the Impact of Hierarchy on Model Understandability – A
Cognitive Perspective....................................................... 18

Assessing the Frequency of Empirical Evaluation in Software Modeling
Research................................................................. 28
Jeffrey C. Carver, Eugene Syriani and Jeff Gray

Building VECM-based Systems with a Model Driven Approach: an
Experience Report.......................................................... 38
M. Leotta, G. Reggio, F. Ricca and E. Astesiano

Empirical evaluation of the conjunct use of MOF and OCL .................. 48
J. Cadavid, B. Baudry and B. Combemale