Second International Workshop on Human Factors in Modeling (HuFaMo 2016)

Harald Störrle
DTU Compute
Technical University of Denmark
Lyngby, Denmark
Email: hsto@dtu.dk

Michel R. V. Chaudron
Chalmers University of Technology
and Gothenburg University
Gothenburg, Sweden
Email: chaudron@chalmers.se

Vasco Amaral and Miguel Goulão
NOVA LINCS, DI, FCT
Universidade NOVA de Lisboa
Lisboa, Portugal
vma@fct.unl.pt, mgoul@fct.unl.pt

I. INTRODUCTION

Modeling is a human-intensive enterprise. As such, many research questions related to modeling can only be answered by empirical studies employing human factors. The International Workshop Series on Human Factors in Modeling (HuFaMo) is dedicated to the discussion of empirical research involving human factors in modeling. Our goal is to improve the state of the science and professionalism in empirical research in the Model Based Engineering community. Typical examples of research questions might consider the usability of a certain approach, such as a method or language, or the emotional states or personal judgements of modelers.

While concerned with foundations and framework support for modeling, the community has been somehow neglecting the issue of human factors in this context. There is a growing need from the community concerned with quality factors to understand the best practices and systematic approaches to assert usability in modeling and confirm the claims of productivity. This workshop creates a space for discussion being a get together of both MDE, Usability, Human Interfaces and the Experimental Software engineering community. HuFaMo expressly focuses on human factors, in order to raise the awareness for these topics and the associated research methods and questions in the modeling community, providing an outlet for research of this type, guaranteeing high quality reviews by people that apply these research methods themselves. Along with fully complete empirical evaluations, the workshop organizers explicitly encouraged researchers new to empirical methods to discuss study designs before conducting their empirical evaluations. The rationale was to create a constructive environment where the HuFaMo participants could contribute to improving the proposed study designs so that stronger (and more easily replicable) empirical designs and results can be obtained. Ultimately, we aim to congregate a community of researchers and practitioners that promotes (possibly independently replicated) empirical assessments on claims related to human factors in modeling.

II. THE SECOND EDITION OF HUFAMO

The second edition of this workshop series (HuFaMo 2016) took place in Saint Malo, France, in October 4, 2016. HuFaMo 2016 was integrated in the ACM/IEEE 19th International Conference on Model Driven Engineering Languages and Systems, the premier conference on systems and software modeling. In this second edition, HuFaMo attracted a considerable number of participants, including researchers and practitioners. The workshop included the discussion of 5 papers and a working session on how to build up the HuFaMo community and leverage the synergies among participants.

III. FORMAL PAPER PRESENTATIONS

The HuFaMo Program Committee selected 5 papers for presentation in the workshop. Here, we briefly outline some of the main contributions of each of those papers.

Rodi Jolak presented a new generation software design environment, OctoUML. OctoUML supports the creation of informal and formal notations and the transformation between them. Moreover, it supports multiple modes of interaction (e.g. mouse and keyboard, touch and voice). The tool was evaluated by conducting a user study. The obtained results from the user study show that OctoUML provides a user-friendly environment and has the potential to effectively support the activities of the designers [2].

Max Kramer presented a plan of experiment for empirically assessing understandability gain of using a Model Transformation Language (MTL) instead of a General Purpose Programming Language (GPPL). During the experiment the subjects have to answer a paper-based questionnaire in order to demonstrate their ability in understanding the effect of transformation code snippets. To evaluate the influence of MTL on the quality and speed of program comprehension, Max proposed two statistical tests. The tests actually compare the average number of correct answers with the the average time spent on answering them [3].

Eric Souza presented a design of an experiment to compare two methods to specify economic values (e3value and value-driven development). In particular, the experiment design provides means to predict the acceptance of one particular method in practice. The criteria of acceptance are based on: (i) the effort of applying the particular method, (ii) the quality of the created artefacts, and (iii) the perceptions that are perceived by the users regarding the quality of the method [4].

Daniel Strüber presented a design of a controlled experiment to investigate the benefits and drawbacks of two specific reuse mechanisms for model transformation languages: rule refinement and variability-based rules. The aforementioned mechanisms represent two different reuse paradigms: modularizing rules by composing them from smaller shared fragments, versus maintaining a single integrated representation via variability annotations. Daniel proposed to compare those mechanisms by running comprehension and bug-finding tasks. The purpose of running such tasks is to investigate understandability, bug-fixing and modification tasks to study changeability [5].

Finally, Yosser El Ahmar presented and run an empirical activity at HuFaMo16. The purpose of the empirical activity is to understand: (i) what are the effective implementations of the size visual variation to all types of graphic components of the UML sequence diagram, (ii) how the effectiveness of each implementation can be controlled by the type of information to highlight, and (iii) how the effectiveness of each implementation can be controlled by the size of the diagram containing the implementation and its layout [1].

ACKNOWLEDGMENT

REFERENCES

[1] Y. El Ahmar, X. Le Pallec, and S. Gérard. Empirical activity: Assessing the perceptual properties of the size visual variation in uml sequence diagram. In *Second International Workshop on Human Factors in Modeling (HuFaMo 2016). CEUR-WS*, pages 33–43, 2016.

[2] R. Jolak, B. Vesin, M. Isaksson, and M. R. V. Chaudron. Towards a new generation of software design environments: Supporting the use of informal and formal notations with octouml. In *Second International Workshop on Human Factors in Modeling (HuFaMo 2016). CEUR-WS*, pages 3–10, 2016.

[3] M. E. Kramer, G. Hinkel, H. Klare, M. Langhammer, and E. Burger. A controlled experiment template for evaluating the understandability of model transformation languages. In *Second International Workshop on Human Factors in Modeling (HuFaMo 2016). CEUR-WS*, pages 11–18, 2016.

[4] E. Souza, S. Abrahão, A. Moreira, J. Araújo, and E. Insfran. Comparing value-driven methods: an experiment design. In *Second International Workshop on Human Factors in Modeling (HuFaMo 2016). CEUR-WS*, pages 19–26, 2016.

[5] D. Strüber and A. Anjorin. Comparing reuse mechanisms for model transformation languages: Design for an empirical study. In *Second International Workshop on Human Factors in Modeling (HuFaMo 2016). CEUR-WS*, pages 27–32, 2016.