Essentials of the 5th Educators' Symposium at MODELS 2009

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Abstract. This paper reports on the Educators' Symposium held at the MODELS 2009 conference. It shortly explains motivation of the symposium, shows the accepted papers of the symposium and mentions the people who have contributed.

1 Motivation

As in past years, the 5th MODELS Educators' Symposium was held at the MODELS conference, which was held in Denver, Colorado. The focus of the this version of the symposium was on analyzing experience related to teaching modeling techniques and on developing resources to support effective training of future MDD practitioners. In the call for papers we encouraged authors to submit articles on

1. education artifacts that can be effectively shared through a community-based MDD resource,
2. descriptions of existing community-based MDD education resources, and
3. plans for developing and maintaining community-based education resources.

2 Contributions

We received four very good submissions to the symposium which were presented in the morning sessions. The paper titled "Teaching Model Engineering in the Large" by Petra Brosch et al. describes experience related to teaching an advanced course on model engineering at Vienna University of Technology, Austria. Students in the course were required to build their own modeling environments. The environments included domain specific languages, model transformations and code generators.

The paper titled "Experiences of Teaching Model-Driven Engineering in a Software Design Course" by Peter J. Clarke et al. describes the authors' experience with incorporating software modeling material into a software design course at Florida International University (FIU), Florida, USA. The paper described the communication service framework that was used as the basis for the class project. The authors also discussed the results of a student survey on the effectiveness of current modeling techniques and tools.

The third paper that was presented at the symposium is titled "Abstract thinking: A predictor of modeling ability?" and was written by Patricia Roberts. In that paper, the author discussed a survey mechanism used in a study on the relationship between abstract thinking abilities and success in the Computer Science discipline.

The fourth paper that was presented, titled "Teaching Models@BIG: On Efficiently Assessing Modeling Concepts", written by Marion Brandsteidl et al., discussed the experience of the authors from Vienna University of Technology gained when teaching an introductory course on object-oriented modeling. The paper focused on how student modeling skills and knowledge were assessed and the tests used in the assessments.

The submitted papers are all available on the following website: `http://www.cs.colostate.edu/models09/edusymp.html#acceptedPapers`

In addition to the presentation of submitted papers, we invited educators with significant experience or working on major projects to present their views on issues related to the focus area. Oystein Haugen was invited to give an opening talk in which he presented his experience with teaching modeling techniques at the University of Oslo. Sabine Moisan and Jean-Paul Rigault presented their experience with teaching object-oriented modeling techniques to students and industry practitioners in France. This paper is included as a selected long paper in this volume. Betty Cheng and Robert France presented an overview of the ReMoDD (Repository for Model Driven Development) project that aims to provide a resource for sharing models and educational MDD materials. Jordi Cabot gave an invited talk on a new initiative to deliver a diploma program in MDD.

The symposium ended with a panel. A summary of the panel is given later in this report.

3 Abstracts

3.1 Abstract thinking: A predictor of modelling ability?

by Patricia Roberts (University of Westminster)

In this paper, we describe a study of the abstract thinking skills of a group of students studying object-oriented modelling as part of a Masters course. Abstract thinking has long been considered a core skill for computer scientists. This study is part of attempts to gather evidence about the link between abstract thinking skills and success in the Computer Science discipline. The results of this study show a positive correlation between the scores of the students in the abstract thinking test with the marks achieved in the module. However, the small numbers in the study mean that wider research is needed

3.2 Experiences of Teaching Model-Driven Engineering in a Software Design Course

by Peter J. Clarke, Yali Wu, Andrew A. Allen (Florida International University), Tariq M. King (North Dakota State University)

Educators continue to face major challenges in getting their students to use models eectively when developing software artifacts. As software systems become more complex it is essential that students not only learn how to create good models during software design activities but also use the models created as the blueprint for implementation. Experts in the software engineering and models communities advocate that introducing students to the concepts of Model-Driven Engineering (MDE) provide students with the insights, techniques and tools to ameliorate the difficulties associated with designing complex software systems.

3.3 Teaching Models@BIG: On Efficiently Assessing Modeling Concepts

by Marion Brandsteidl, Martina Seidl, Gerti Kappel (Vienna University of Technology)

Approximately 1000 students of computer science and business informatics attend the course Introduction to Object- Oriented Modeling (OOM) offered by the Business Informatics Group (BIG) of the Vienna University of Technology each year in order to learn the basic concepts of the Unified Modeling Language (UML) and to obtain a certificate. For finishing the course successfully, the students must pass three small tests where they have to prove their theoretical knowledge about UML concepts as well as their ability to apply this knowledge in practical exercises. In this paper we report our experiences in assessing the modeling knowledge of our students and we reveal how we design the tests

3.4 Teaching Model Engineering in the Large

by Petra Brosch, Gerti Kappel, Martina Seidl, and Manuel Wimmer (Vienna University of Technology)

Traditionally, models are considered as pretty pictures supporting merely the documentation of a software development project. With the rise of model-driven engineering (MDE) this viewpoint has to be reconsidered. Models become rstclass artifacts which yield the basis for the generation of executable program code. In modern university curricula of computer science and related elds this paradigm shift must not be ignored. At the Business Informatics Group (BIG) of the Vienna University of Technology we oer an advanced modeling course called Model Engineering where we elaborate current trends, development, and state-of-the-art techniques necessary to realize the visions of MDE. In this paper we report which concrete concepts and approaches we teach and how we structure and organize a practical hands-on lab where the students have to build their own model-driven development environment consisting of their own modeling languages, certain types of model transformations, and code generation facilities.

4 People Involved

The success of the symposium is a direct result of the effort put into the reviews and discussions on invited speakers and papers that took place in the online program committee exchanges. We greatly appreciate the effort of the program committee members, all of which are listed below:

- Jordi Cabot
- Peter Clarke
- Jeff Gray
- Oystein Haugen
- Ludwik Kuzniarz
- Timothy Lethbridge
- Michal Smialek