Model-Driven Web Engineering (MDWE 2008)

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Abstract. The MDWE 2008 workshop offered a forum to exchange experiences and ideas related to model-driven languages and systems, applied to the Web Engineering field. Presentations and discussions focused on Model Driven Architecture (MDA) for the development of web systems; the use of metamodels, UML profiles, model-to-model and model-to-code transformations for generating web applications; and the use of tools and frameworks for supporting model-driven web development.

1 Workshop Rationale and Aims

Web Engineering is a specific domain in which Model-Driven Software Development (MDSD) can be successfully applied. Existing model-based web engineering approaches already provide excellent methods and tools for the design and development of most kinds of web applications. They address different concerns using separate models (navigation, presentation, workflows, etc.) and come with model compilers that produce the application's web pages and logic based on these models. However, most of these Web Engineering proposals do not fully exploit all the potential benefits of MDSD, such as complete platform independence, metamodeling, and model transformations.

The MDA initiative introduced a new approach for organizing the design of an application into different models so portability, interoperability, and reusability can be obtained through architectural separation of concerns. MDA covers a wide spectrum of topics and issues (MOF-based metamodels, UML profiles, model transformations, modeling languages and tools, etc.). At the same time, we see a trend towards application interoperability and Web 2.0 technologies and richer applications. However, the effective integration of all these new techniques with the already existing model-based Web Engineering approaches is still a challenge.

The fourth edition of the MDWE workshop was held in Toulouse, France, in conjunction with the MoDELS 2008 conference. The goal of the workshop was to facilitate the discussion of key issues, innovative approaches, open problems and trends in these research areas, with the aim of identifying methodologies and technologies to effectively support Model-Driven Web Engineering. The MDWE 2008 web site [1] contains all the detailed information about the workshop, including the agenda and the Proceedings with the presented papers.

2   Workshop Overview

Eight papers were selected for presentation at the workshop, from 15 initial submissions. Selected papers were published in the workshop Proceedings, which are available online [2]. The selection was based on a strict peer-review process by which each submitted paper was reviewed by at least three reviewers.

In the paper by Ernst Oberortner, Martin Vasko and Schahram Dustdar a static model is introduced, which enables the assignment of Role-Based Access Control to the pageflow at design time, achieving the integration of security concerns.

Juan Manuel González Calleros, Adrian Stanciulescu, Jean Vanderdonckt, Jean-Pierre Delacre and Marco Winckler performed in their paper a comparative analysis of model-transformation engines (publicly available, commercial, and developed ad-hoc) for the model-driven development of User Interfaces.

The paper by Ali Fatolahi, Stéphane S. Somé, and Timothy C. Lethbridge considers the use case model as a baseline to generate other models (including state machines and user interface models), which are eventually transformed into a platform-specific model used for code generation.

The work of Valeria de Castro, Juan Manuel Vara Mesa, Elisa Herrmann and Esperanza Marcos focuses on the alignment problems of models at the computational and platform specific levels (CIM and PIM), i.e. the business view in the former and the information system view in the latter.

Model-driven performance of service configurations with reliable messaging is discussed in the paper from László Gönczy, Zsolt Déri, and Dániel Varró. Starting from high-level UML models of service configurations captured by a UML profile for SOA, performance models are derived by automated model transformations in order to assess the performance cost of fault tolerance techniques.

Howard Foster, Sebastian Uchitel, Jeff Kramer and Jeff Magee also focused on services, presenting a model-driven approach for service brokering specifications.

Marco Brambilla, Piero Fraternali and Massimo Tisi introduced a transformation framework for the migration of WebML models to MDA.

The final paper by Lutzen Luinenburg, Slinger Jansen, Jurriaan Souer, Inge van de Weerd and Sjaak Brinkkemper focused on the design of a web content management systems using the method association approach.

A final session was devoted to analyse and further discuss the main issues raised in the workshop, including MDWE for "new" web applications, a classification of systems and features, patterns, criteria for a quality model, traceability, evolution support for web applications and evolution of methodologies. Extended versions of two of the papers (the one by Bambrilla et al., and the one by Gönczy et al.) were selected for inclusion in this MoDELS 2008 Workshop Proceedings.

References

[1] MDWE 2008 web site (last visited 17.11.2008) (2008),
       `http://mdwe2008.pst.ifi.lmu.de/`
[2] Koch, N., Houben, G.-J., Vallecillo, A.: Proc. of the 4th Int. Workshop on Model-Driven
       Web Engineering (MDWE 2008) (last visited 17.11.2008) (2008),
       `http://CEUR-WS.org/Vol-389/`