

Preface to MDSE4AmI 2007

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The implementation of AmI applications is a task of tremendous complexity requiring the seamless integration of heterogeneous systems in an open and flexible way while providing the means for adaptivity and context-awareness. Ubiquitous devices have to cooperate to realize smart environments, multimodal user interfaces have to adapt to the available modalities for interaction and context information has to be taken into account. Therefore, new engineering approaches are needed in order to facilitate efficient design, development and deployment of AmI applications.

Model driven approaches may be able to contribute to a solution by providing the means to build specific applications in a (semi-)automatic way from abstract models using well-defined transformations. The workshop on Model Driven Software Engineering for Ambient Intelligence Applications, held on November 7, 2007, in the context of the European Conference on Ambient Intelligence in Darmstadt, supported this assumption. The workshop presented a stimulating mixture of talks ranging from basic research to industrial applications.

Looking at the nine papers presented at the workshop one can identify certain trends:

- Usability and inclusion of the end-user perspective

The usability of the developed applications is an important but largely unsolved issues. There is a number of different approaches, like the inclusion of user models, the use of usability metrics or the application of usability rules. However, currently all these approaches lack from an adequate formalization and a proper integration into the development process.

- Distributed and flexible user interfaces

Smart environments and the widespread use of mobile devices expand the possibilities for user interaction. There needs to be a shift from user interface design to interaction design to make use of all available modalities and to provide a satisfying user experience. This requires new concepts and methods for the design, the implementation and the evaluation of user interaction.

- Use of models at runtime

In order to provide the flexibility and openness required for ambient intelligence applications there is an increasing trend to use models at runtime. However, it is difficult to find the right balance between design time modeling and runtime interpretation and it is still unclear whether runtime interpretation can really provide a general approach without the need to fine-tune for each modality and application domain.

All these issues are closely interrelated. A fundamental question is how to increase the usability while maintaining flexibility and openness in ambient intelligence applications. Model based approaches have the potential to contribute to a solution and therefore we are looking forward to exploring these issues in more detail in future workshops.

We would like to thank our invited speaker Markus Lauff from SAP who gave an interesting talk about the integration of context information into mobile business applications using a model-based approach. We also appreciate the work of organizing committee of AmI 2007 and especially like to thank our workshop co-organizers Karin Coninx, Hasselt University, and Jean Vanderdonckt, Université catholique de Louvain. Last but not least we would like to express our gratitude to all Program Committee members and all authors for their contributions to make the workshop a success.