

Conceptual Modelling for Ambient Assistance and Healthy Ageing

Preface: Conceptual Modeling for Ambient Assistance and Healthy Ageing

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“Health, demographic change and wellbeing” is not only a designated “Grand Challenge” of the European Union but an upcoming challenge of the entire world. Endeavors are made in various directions to meet that challenge, amongst which the fields of “Active and Assisted Living (AAL)” and “Healthy Ageing (HA)” are rather prominent.

The design of innovative and beneficial IT solutions in these domains recommends “thinking out of the box”, i.e. looking beyond current ways of living in the older age. For innovation to work, it is also important to get various stakeholders of future assistance systems involved in time, i.e. to offer them comprehensible representations of possible solutions that enable them to express their concerns and demands. Therefore, the realization of advanced systems to support “Active and Assisted Living (AAL)” and “Healthy Ageing (HA)” recommends powerful abstractions, or, in other words, the design and use of conceptual models.

Although most projects dealing with AAL and HA use models in some way, only few systematic approaches to modeling methods for these fields have been reported so far. Therefore, the workshop “Conceptual Modeling for Ambient Assistance and Healthy Ageing” was designed and firstly held at ER2015 to reveal the existing and potential contributions, which can be made by the modeling community to AAL and HA. A particular emphasis was on Conceptual Modeling within the context of designing and developing systems for assisting humans in their everyday live and in healthy ageing. A discussion at the end of the 2015 AHA instance came to the clear conviction of all participants that this had been a successful begin and should be continued in the next years as the model focused view of AHA will become increasing importance.

Questions to be discussed at AHA2016 were, among others, which modeling method might be useful for which purpose, how the requirements of the end users could be met by using (conceptual) modeling techniques, and how to relate modeling tools to common standards in the fields of Ambient Assistance, Ambient Assisted Living and Healthy Ageing.

All submitted papers have been peer reviewed by members of the program committee. This chapter contains those papers, which have been accepted by the program committee, and carefully revised following the reviewers' comments.

The paper "*A Model-Driven Engineering Approach for the Well-Being of Ageing People*" by Amanuel Koshima, Vincent Englebert, Moussa Amani, Abdelmounaim Debieche and Amanuel Wakjira presents a model-driven framework for handling high-level specifications of AAL concerns like being notified of events (e.g., a ringing phone) or receiving adequate assistance (e.g., after a fall). The framework focuses on the following aspects to be modeled explicitly: (1) agent's goals that formally capture users' concerns, (2) abstract solutions, and (3) concrete solutions in terms of APIs or various combination of APIs.

Bernhard Thalheim and Hannu Jaakkola address in their paper "*The Cultural Background and Support for Smart Web Information Systems*" the challenge of designing and implementing web information systems that are 'smart' in the sense that they adapt to the user's 'culture' independently on her/his age, abilities, habits and environments. The authors propose a generic approach based on stereotypes reflecting cultures.

We thank all authors for submitting to AHA2016 as well as the members of our renowned program committee for their careful and intensive collaboration.

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