

Preface

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1. This thematic issue

Ambient Intelligence is naturally compatible with the notion of human-centric computing. This in fact highlights the importance of human-related information to better support the users of the system.

The process of acquiring, processing, and modeling the knowledge related to the users of an environment defines how actively a system can engage in understanding the deployment environment and its users. Imagine for example that in a Smart Home the system may have access to the preferences and state of its occupants from light level and temperature settings to their interactions, exercise routines, emotional states, vital signs, as well as the history of such attributes over a period of observation. With such information the system can employ a more holistic understanding of the users in order to better react to their needs or provide them with timely and desired services.

The user information can take static or dynamic forms, either be queried from an accumulated knowledge base or a user profile saved in the system, or sensed in real-time via sensors or other user interfaces. Such information can help the system to run comparative analysis between the on-going observed event and the history data, and, for example, to detect an occurrence of an abnormal activity. Another type of comparative analysis can be performed between the observed data of the user with those of other users with similar demographic state or lifestyle.

User knowledge also enables the system to decide the mode of interacting with or interrupting the user when certain action needs to be taken or information is available to be given to the user. If the action requires direct interaction with the user the time and method of delivery of information can be derived from the user's

current state of activity or emotion and the availability mode stored in the profile.

For all these reasons human-oriented knowledge plays a vital role in the development of sensible and sensitive AmI systems. Handling of such knowledge will ultimately serve as one of the decisive elements in the adoption of applications in Ambient Intelligence and Smart Environments by the society in a widespread manner as Weiser envisioned.

Hence we are pleased to bring to you the first issue of the second volume of JAISE, which focuses on *Computational Modeling of Human-Oriented Knowledge within Ambient Intelligence* edited by three distinguished colleagues in the area: Tibor Bosse, Vic Callaghan, and Paul Lukowicz.

2. Upcoming issues

The journal is organizing a thematic issue on Smart Homes, clearly an area where much research in the field of Ambient Intelligence and Smart Environments has been pursued over the past several years, and a major application domain with many instantiations and prototypes worldwide. More information on this thematic issue can be found at the webpage or JAISE at: <http://www.iospress.nl/loadtop/load.php?isbn=18761364>.

3. Upcoming events

For an area active like ours there are always interesting events around the world. The last pages of this issue provide more information on some interesting upcoming events.

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