Preface

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1. This thematic issue

This issue of JAISE focuses on a new evolutionary step in the field of Ambient Intelligence (AmI) by setting forth the notion of *Synergetic Prosperity*. Oftentimes a field of research reaches the maturity level to define a set of new aims and methodologies to drive future developments. Being a relatively young field of research, AmI has attracted significant attention and involvement from different communities with a variety of experiences. As the dynamics of collaboration between different disciplines provides a foundation from which a set of results is achieved, opportunities may be created for reassessing the vision driving the field and finding new directions for reformulating the underlying assumptions, reshaping the objectives, or redefining the methodologies involved. After being in the development phase for a decade, the field of AmI may just be undergoing a phase of searching for new aims. This is at least the view from a part of the community, and is the basis for the work presented in the papers in this thematic issue. Being an interdisciplinary area of research, it is quite natural for AmI to expect similar propositions in the future. In fact, search for new directions for extending or renovating the research components of a field often leads to a more enriching experience for the research community and promotes further interdisciplinary collaboration. It will also enable the research field to critically assess its progress and seek new aims and methods that offer fresh challenges to the research practitioners.

The content of this thematic issue has been shaped mostly by the European Conference on Ambient Intelligence, which took place in Salzburg in 2009. It includes an Invited Paper by Aarts and Grotenhuis which presents the concept of *Synergetic Prosperity* and is followed by three papers from the conference which have been extended for this issue. They provide examples of developments which show progress in the direction of the overarching concept of Synergetic Prosperity. The technical content of this issue is completed with a regular technical submission. With this issue we also start a new section on Book Reviews. Egon van den Broek provides the first review of this series.

2. Thematic issue: Synergetic Prosperity

The invited paper *"Ambient Intelligence 2.0: Towards Synergetic Prosperity"* by Aarts and Grotenhuis argues for the need to adopt a balanced approach to technology development in the field of AmI in which the current paradigm of promoting maximal productivity through the use of sensing and communication technologies is replaced by a new paradigm in which new solutions aim to maintain a balance between mind and body, between services and sustainability, and between individuals, communities, and the planet.

The paper *"Synchronized realities"* by Stahl, Frey, Alexandersson, and Brandherm proposes to ground the design and development process, as well as the user interface of assistance and awareness systems on a detailed 3-D model of the environment and its instrumentation with sensors and actuators, such that the intended process in the smart environment has a replica in the virtual model. The motivation for this is to promote social connectedness as a critical component of assistive systems through offering natural, reactive, and shared experiences between users. The notion of synchronization of the real and virtual worlds can offer a model to facilitate experience sharing when the assumed virtual world from each user's perspective is indeed a replica of the physical world of the other user in the social interaction link. In such a link, a physical effect in one environment is replicated by a similar one in the other environment, and each user can either apply a change to both her local and the remote spaces or observe the change made by the other user in her local physical world.

The paper *"A development support bubble for children"* by Verhaegh, Fontijn, Aarts, Boer, and van de Wouw presents a concept for enhancing child development by introducing tangible computing with interfaces that are simple and make sense to children. Interactions take place through familiar play objects to which the children already have a connection. The paper argues for an integrated interactive system to create a natural transition from playing at home through playing in a school environment to focused learning at school. The educational exercises can be presented in the form of attractive games, towards which the children are intrinsically motivated. The paper discusses case studies in which interactive games also offer personalization and contextualization features for adaptation to a child's developmental process.

The paper *"Supporting peace of mind and independent living with the Aurama awareness system"* by Dadlani, Markopoulos, Sinitsyn, and Aarts proposes an interactive awareness system for elderly care which aims to support the elderly users, their children, and care providers through providing suitable communication forms for personal interactions as well as access to well-being data. The paper argues that the operation of the current systems based on short-term measurements and one-way information flow needs to be augmented by efforts to provide the user with social connectedness services via informal daily communication activities, as well as design factors that promote the acceptance of the services by the elderly. The system should also sift through long-term data to detect trends, extract objective measurements to complement personal impressions of family members and, where necessary, put professional experts in the loop.

This issue also includes a manuscript selected via regular submission:

The paper *"PlaceComm: A framework for context-aware applications in place-based virtual communities"* by Nguyen, Loke, Torabi, and Lu proposes to use the concept of *Place* as an abstraction common among many context-aware applications. A *Place* is not just a location but contains interactions among people and experiences that make the place meaningful, essentially, making a location a place. A place-based virtual community can then be defined as the collection of people, objects, buildings, devices, services, history, activities and interactions at a place. The place knowledge base can be shared among a multitude of location-aware applications, each of which can be both a consumer of as well as a contributor to the knowledge base derived from individuals, objects, or events within the place.

3. Upcoming issues

This journal is organizing a Thematic Issue on *Virtual and Mixed Reality Intelligent Environments*. More information on the call for papers to this thematic issue is available on the webpage or JAISE at:
http://www.iospress.nl/loadtop/load.php?isbn=18761364

4. Upcoming events

As usual for an area active like AmI there are interesting events around the world. The last pages of this issue provide information on some interesting upcoming events.