

Preface

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1. Three years of JAISE

This is the fourth issue of JAISE in 2011, completing its third volume. In 2011 JAISE achieved a few milestones, among them being accepted for indexing by Scopus and by Thomson Reuters. Earlier in the year JAISE was accepted for inclusion in the Science Citation Index, with coverage starting from its first edition (2009) onwards. There, JAISE has been included in the subject categories Computer Science, Artificial Intelligence, and Information Systems. Last summer, with the release of the 2010 Journal Citation Reports, JAISE was given its first Impact Factor: a respectable 1.5. We take this opportunity to thank our advisory and editorial board members, the authors, as well as the reviewers for their contributions to JAISE in the past three volumes.

2. This issue

Among the major tasks aimed at by many Ambient Intelligence systems is the monitoring of a human user. Given the multiplicity and variety of the events associated with an observed human, such as interactions with the environment or with other humans, the observation and interpretation system often needs to consider complex sensory data consisting of heterogeneous measurements. The paper “An Ambient Agent Model for Monitoring and Analysing Dynamics of Complex Human Behaviour” [1] by Bosse et al. argues for the necessity of analysing more complex behaviour than a single observed episode of a user event or a measured entity reported by a sensor. The paper introduces an agent-based framework for modeling complex events, such as those that repeat over time with different attributes. The model treats humans and ambient devices as intelligent, autonomous entities (agents), and describes their behaviour at the conceptual level in

terms of intuitive notions such as observations, actions, communications, and beliefs. Based on the proposed model, complex patterns over time can be monitored, and support methods be triggered upon identification of a problem. The paper reports on three case studies and examines the findings.

Recognition of human pose is a problem of common interest in many applications of smart environments. Camera-based methods have been extensively examined to solve this problem, and research on various vision-based techniques is still on-going. Classification of the pose to the three states of standing, sitting, and lying down finds interest in some applications. The paper “Unobtrusive Human Height and Posture Recognition with a Capacitive Senso” [2] by Valtonen et al. introduces a capacitive measurement technique which avoids the use of cameras and hence allows for better privacy protection of the user. However, to obtain the measurements, the floor and the ceiling of the environment need to be equipped with meshes of electrodes. The method differentiates between the three named poses based on capacitive coupling of low-frequency signals and conductivity of the human body. The article provides simulated and experimental results of implementing the system in the lab.

The paper “Context-Aware Resource Management for Secure End-to-End QoS Provision in Service Oriented Applications” [3] by Chen et al. presents an approach for resource management in service oriented applications which aims to handle the inherent dynamics of services and the network, and to provide end-to-end Quality-of-Service (QoS) in a secure way. To maintain privacy, the approach defines virtual communities for organizing devices and services. Based on a secure service cooperation environment defined through such virtual communities, a cross-layer monitoring architecture is designed to gather the performance statistics of services and the network. The paper introduces a prototyping system

and a 3D video streaming application to demonstrate the feasibility and performance of its proposed approach.

Monitoring the safety of the elderly living independently at their homes has been the subject of research in the past several years. The use of wearable sensors such as accelerometers has been proposed in the past. Visual sensors offer an unobtrusive solution and can also provide further information about the user's activities of daily life, which can be employed in different assistive applications. The paper "*Evaluation of an Inexpensive Depth Camera for In-Home Gait Assessment*" [4] by Stone et al. investigates the use of visual sensors and compares regular webcams with the Kinect sensors which have been recently examined by researchers and application developers. The paper offers conclusions on the advantages and limitations of these sensors. This paper was selected as the *Best Paper at Pervasive Health 2011* in Dublin.

Finally, the position paper "*The "A.I.vatar": Artificial Intelligent Agents in the Context of Ambient Intelligence*" [5] by Andrade discusses the potentials of the proliferation of Ambient Intelligence devices and systems which provide their users with a multitude of services in daily activities adapted to the user's profiles and preferences. The article argues for the need for a new type of intelligent agents which can operate on behalf of the user in different devices and applications within the AmI context: the "A.I.vatar". The article underlines some unique features of these agents that distinguish them from the traditional intelligent software agents and the avatars. The paper concludes with a series of legal remarks pointing to future research directions on the topic.

3. Upcoming issues

The next issue of JAISE will be a thematic issue on *Virtual and Mixed Reality Intelligent Environments*. More information on the call for papers to the upcoming thematic issues is available on the webpage of JAISE at: www.iospress.nl/loadtop/load.php?isbn=18761364.

4. Upcoming events

As usual for an area as active as AmI there are interesting events held throughout the year. The last pages of this issue provide information on some interesting upcoming events.

References

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