

Preface

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1. This issue

This issue of JAISE is composed of four papers. The review process for the papers in this issue was supervised by our editors Andres Muñoz Ortega, Wei Chen, Fabio Paterno, and Stefano Chessa, whom we thank for their service.

We are heading towards a technologically connected world where more and more devices are being installed in our homes, in office buildings, and in our cities. Some of these devices are nothing new, such as smart televisions, air conditioning units, security cameras, or smart fridges. In most cases they are devices we had before but that now are connected to the internet or interconnected with other devices. Others are relatively new devices such as ambient lights or microphones to enable the interaction with a computer to control the house. The intelligence behind these devices resides in a computational system, such as a smart application, that manages the data that all the sensors generate, and processes it to check what events are happening in the environment. The problem with such infrastructure is the complexity of its installation and the management of the operation of an ambient intelligence environment. Hence, a simulation tool to help in this task would be quite helpful. The paper “**AmI environments simulations approach integrating social and network aspects: A case study**” by Sánchez-Picot et al. proposes an AmI simulator which integrates both a network and a social simulator. The paper presents a case study with experts and learners involved in analysing the qualitative characteristics of an AmI simulator, and a study on user satisfaction with such a simulator.

Sensors available in a mobile device such as a smartphone or a smartwatch allow the capture of several

signals which may be used to estimate the energy expenditure of the user during physical activity. The paper “**Validation of a method for the estimation of energy expenditure during physical activity using a mobile device accelerometer**” by Pires et al. proposes an adaptive method for measuring the energy spent by the user during physical activity. The adaptation process includes a comparison between the units of the data acquired by a tri-axial accelerometer and a mobile device’s accelerometer. The paper validates its method with tests performed by a group of users who performed several of the most common physical activities while carrying a mobile device on their waist.

With the advent of connected devices and online services, the number of notifications received by each of us is growing. Although notifications are useful to inform us about important information such as new messages and events, the continuous interruptions, duplications and repeats, and inflexible delivery methods can be sources of work disruption and discomfort. To overcome these issues, the paper “**AwareNotifications: Multi-device semantic notification handling with user-defined preferences**” by Corno et al. proposes an intelligent system based on user-defined preferences to manage multi-device notifications. The proposed system is based on Semantic Web technologies, and through directly exploiting user preferences in the semantic reasoning process, it is capable of identifying suitable devices, modality, and times to deliver the incoming user notifications.

Thanks to the pervasiveness of smart technologies, researchers can now aggregate large amounts of data and investigate user activities for delivering personalized home-care services. Activity recognition systems have been widely developed; however, challenges in how to aggregate data and derive analytical activity

recognition conclusions still need to be addressed. The paper **“Combining wearable physiological and inertial sensors with indoor user localization network to enhance activity recognition”** by Fiorini et al. presents a system in which information on body movements, vital signs, and user’s indoor location are aggregated to improve activity recognition results. A focus of the presented work is to evaluate the effect of location information on improving the recognition of some of the most common daily activities.

2. Upcoming issues

The following is the list of upcoming issues of JAISE:

- September 2018: Regular Issue
- November 2018: Regular Issue
- January 2019: The 10th Anniversary Issue
- March 2019: Regular Issue
- May 2019: Thematic Issue on “Wearable Computing Techniques for Smart Health”

More information on the call for papers for future thematic issues is available on the webpage of JAISE at: <http://www.iospress.nl/journal/journal-of-ambient-intelligence-and-smart-environments/>.