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Ubiquitous Computing and Ambient Intelligence

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Preface

The ubiquitous computing (UC) idea envisioned by Weiser in 1991 has recently evolved to a more general paradigm known as ambient intelligence (AmI). AmI represents a new generation of user-centric computing environments aiming to find new ways to obtain a better integration of the information technology in everyday life devices and activities.

AmI environments are integrated by several autonomous computational devices of modern life ranging from consumer electronics to mobile phones. Ideally, people in AmI environments do not notice those devices, but they benefit from their provided services. Such devices are aware of the people present in those environments by reacting to their gestures, actions, and context. Recently the interest in AmI environments has grown considerably owing to new challenges posed by society demanding highly innovative services such as vehicular ad hoc networks (VANET), ambient assisted living (AAL), e-health, Internet of things, and home automation among others.

The International Conference on Ubiquitous Computing and Ambient Intelligence celebrated its sixth edition. Since its first edition back in 2005 the event has grown significantly, as shown by its increasing number of participants and more importantly its growing impact in the UbiComp community. This international conference has brought together the work of researchers from around the globe in these disciplines, where half of the attendants have come from Latin American countries. This event has yielded several special issues in JCR publications, five special issues in this series, denoting the increasing influence of the works presented in it on the UbiComp literature.

The main focus of this new edition of the conference has been to explore how AmI can contribute toward smarter but still more sustainable environments (e.g., smart cities, smart cars, eco-aware device orchestration and so on). This also explains why it has been celebrated in the 2012 European Green Capital, namely, Vitoria-Gasteiz in Spain.

Beyond sustainable computing, the UCAmI 2012 proceedings also include research works describing progress on other key research topics for AmI such as: human-environment mobile-mediated (through NFC or AR) interaction, artificial intelligence techniques to foster user-and context-aware environment adaptation, future Internet trends such as social networks analysis, linked data or crowd-sourcing applied to AmI, Internet-connected object ecosystems collaborating to give place to smarter environments (in cities, cars, tourist sites or for more intelligent transport) among others. Altogether, this sixth edition includes 70 research articles.

Finally, we would like to thank all organizers (i.e., MAmI Research group, University of Deusto, CIC Tourgune and Technological University of Panama), and collaborators (i.e., Vitoria-Gasteiz Council), together with the reviewers (members of the Program Committee) for helping us by contributing to a high-quality event and proceedings book on the topics of ubiquitous computing and ambient intelligence.

December 2012

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