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Ubiquitous Intelligence and Computing

Third International Conference, UIC 2006
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Proceedings

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Preface

Welcome to the proceedings of the Third International Conference on Ubiquitous Intelligence and Computing (UIC 2006), Building Smart Worlds on Real and Cyber Spaces, which was held in Wuhan and Three Gorges, China, September 3-6, 2006.

Following ubiquitous computers, networks, information, services, etc., is a road towards a smart world (SW) created on both real and cyber spaces. A SW is mainly characterized by ubiquitous intelligence (UI) or computational intelligence pervasive in the physical world, filled with ubiquitous intelligent or smart things that are capable of computing, communicating, and behaving smartly with some intelligence. One of the profound implications of such ubiquitous smart things is that various kinds and levels of intelligence will exist ubiquitously in everyday objects, environments, systems and even ourselves, and possibly be extended from man-made to natural things. "Ubicomp" or "percomp" can be regarded as the computing of all these intelligent/smart things/u-things, that are essential elements and components of the SW.

A smart thing can be endowed with different levels of intelligence, and may be context-aware, active, interactive, reactive, proactive, assistive, adaptive, automated, sentient, perceptual, cognitive, autonomic and/or thinking. Intelligent/smart things is an emerging research field covering many disciplines. A series of grand challenges exist to move from the ubiquitous world with universal services of any means/place/time to the SW of trustworthy services with the right means/place/time. UIC 2006 was a successor of the Second International Symposium on Ubiquitous Intelligence and Smart Worlds (UISW 2005) held in Japan, December, 2005, which succeeded the First International Workshop on Ubiquitous Smart Worlds (USW 2005) held in Taiwan, March, 2005.

The UIC 2006 conference provided a forum for engineers and scientists in academia, industry, and government to exchange ideas and experiences in developing intelligent/smart objects, environments, and systems as well as to discuss various personal/social/physical issues faced by UI and SWs.

There was a very large number of paper submissions (382), representing 25 countries and regions, not only from Asia and the Pacific, but also from Europe, and North and South America. All submissions were reviewed by at least three Program or Technical Committee members or external reviewers. It was extremely difficult to select the presentations for the conference because there were so many excellent and interesting submissions. In order to allocate as many papers as possible and keep the high quality of the conference, we finally decided to accept 117 papers for presentations, reflecting a 30% acceptance rate. We believe that all of these papers and topics not only provided novel ideas, new results, work in progress and state-of-the-art techniques in this field, but also

stimulated the future research activities in the area of ubiquitous intelligence and computing.

The exciting program for this conference was the result of the hard and excellent work of many others, such as Program and Technical Committee members, external reviewers and Publication Chairs under a very tight schedule. We are also grateful to the members of the Local Organizing Committee for supporting us in handling so many organizational tasks, and to the keynote speakers for accepting to come to the conference with enthusiasm. Last but not least, we hope you enjoy the conference program, and the beautiful attractions of Three Gorges, China.

August 2006

Jianhua Ma, Hai Jin, Laurence T. Yang
Jeffrey J.P. Tsai, Victor Callaghan
Zhaohui Wu, Albert Zomaya
UIC 2006 Steering, General and Program Chairs

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UIC 2006 was organized and sponsored by Huazhong University of Science & Technology (HUST), co-sponsored by the National Science Foundation of China, 863, ChinaGrid, and International Federation for Information Processing (IFIP). It was held in cooperation with the IEEE Computer Society and *Lecture Notes in Computer Science* (LNCS) of Springer.

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