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Ubiquitous Convergence Technology

First International Conference, ICUCT 2006
Jeju Island, Korea, December 5-6, 2006
Revised Selected Papers

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Preface

Ubiquitous computing is already with us and is changing our lifestyle, way of thinking and quality of life. Everyday objects with embedded computing capabilities are now commonplace and, between mobile phones and RFID tags, further deployment proceeds at an unstoppable pace. The next major step of the ubiquitous computing evolution is the move, already partly underway, from isolated smart objects to distributed systems of smart objects and appropriate back-end infrastructure: microelectronics and communication technology converging with healthcare technology, communication technology, sports and entertainment, housing, vehicular technology, middleware, sensor networks and so on.

You will have noticed that many people in the field now use the word "ubiquitous" not to mean "present everywhere" but as a shorthand for "ubiquitous computing and communications"—leading to otherwise inexplicable locutions such as "the ubiquitous society". Rather than continuing to fight this synecdochical use we have chosen to go with the flow, in so far as the change in language is an indication of the global spread of the meme. We have therefore chosen "ubiquitous convergence" as a concise description of the above view: a systems-oriented perspective encompassing both the technology and its applications.

The First International Conference on Ubiquitous Convergence Technology (ICUCT) was held on Jeju Island, Korea on December 5–6, 2006. This was the first conference organized by the Institute of Electronics Engineers in Korea (IEEK) to celebrate its 60th anniversary. This conference was organized to pave the way for the ubiquitous society by contributing to the development of ubiquitous technologies and their integration in the appropriate application domains. This volume collects the post-proceedings of the conference.

At ICUCT 2006 we accepted only 30 papers from around 640 submissions. We believe the acceptance rate of less than 5% is a clear indication of our commitment to ensuring a very high quality conference. This would not have been possible without the support of our excellent Technical Program Committee members who accurately reviewed and ranked an extraordinarily high number of papers under pressing deadlines. We express our extreme gratitude to all the Program Committee members for their dedication and hard work.

Due to the overwhelming number of submissions, it was impossible to evaluate all papers in one pass in the usual way. Thus, the evaluation process was twofold. In the first round, each reviewer reviewed and classed around 30 papers. After the first round of evaluation, 90 papers were selected. In the second round, 30 papers were accepted. One no-show paper was excluded from the post-proceedings. In addition, we invited Hide Tokuda and Yo-Sung Ho to deliver keynote talks, and we thank them for their valuable contributions. Yo-Sung Ho also wrote up his

talk as an invited paper. This volume therefore contains one invited paper and 29 refereed papers.

All accepted authors were asked to revise and update their papers after the conference based on the written comments from the reviewers and on the formal and informal feedback they received at the conference from other attendees following their presentation. In choosing which papers to accept we tried to achieve a balance among important topics while keeping the paper quality high. Mobile and wireless communication techniques, multimedia technologies, security issues, RFID, sensor networks, applications and convergence aspects of relevant technologies are covered in this conference. These papers address both theoretical and practical issues which, we believe, are of broad interest to our community.

We hope the reader will find this volume to be a timely collection of quality papers that will help to advance the field of ubiquitous convergence technology.

December 2006
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