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EDITORIAL

Theme issues on U-Business service and strategy, and U-Healthcare

James J. (Jong Hyuk) Park · Naveen Chilamkurti · Jungduk Kim

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U-Business is the realization of an environment of information exchange on multiple devices that is characterized by the integration of online and offline, the convergence of wired and wireless internet and electronic commercial transactions based around autonomous computing environments.

We have put together two related theme issues, connected by a common set of U-Business topics, including:

- The Evolution of New Generation U-Business Philosophies
- Trust and Value creation
- Knowledge
- Service Competence
- Strategic Experimentation Paradigms
- U-Business/IT Infrastructure Requirements
- Entrepreneurial Best Practices,
- Legal, Ethical, Cultural, Training and Social Issues
- Design, Development and Implementation
- Case Studies and Experience Reports
- New generations of U-Business Applications,
- U-Business Readiness
- U-Business Professionalism.

The papers in these issues are intended to help the continued transformation of business through new ubiquitous computing technologies. These papers provide a overview of some of the new work in this area. We truly want many other researchers to set foot into this fascinating world.

J. J. (Jong Hyuk) Park (✉) · N. Chilamkurti · J. Kim
Seoul National University of Science and Technology, Seoul, Korea
e-mail: jonghyuk09@gmail.com

1 U-Business components

The first of the two issues is *U-business Components* and comprises seven papers.

The first two papers are *Range Image Denoising using a Constrained Local Gaussian Model for 3D Street/Object Query Service* by Kwang Nam Choi and *Generation of RFID Test Datasets Using RSN Tool* by Wooseok Ryu. This second paper discusses a step-by-step usage of the RSN Tool from the creation of a virtual infrastructure to the generation of tag events. The third paper is *On the Security of the Block Cipher GOST Suitable for the Protection in U-Business Services* by Jongsung Kim, who revisits the security of the block cipher GOST, which is suitable for the protection in U-Business services due to its simple design. *Research on Life-Cycle of User Model in U-Business* by Bofeng Zhang, Jianxing Zheng, Jianhua Ma, Yinsheng Li, Guobing Zou and Qun Jin proposes that a User Model (UM) personalizing service to different user can play an important role in U-Business. The fifth paper, *A u-IT Collaboration Evaluation Model for Value Networks* by Yanghoon Kim and Hangbae Chang examines performance analysis of collaborative networks between. The sixth paper is *A Study on the Promotion of the Business Service for Regional Retail Store Using Ubiquitous Technology* by Hong Joo Lee who attempts to explore the ways for regional retail stores to secure competitiveness against SSM amid the changes in the domestic distribution environment caused by the advancement of SSM. Finally, *Taxonomy of Ubiquitous Computing Service for City Development* by Choon Seong Leem and Byoung Gun Kim explores Korea's ubiquitous city (U-City) construction project and in particular the u-city service classification system to develop it successfully by means of providing a balanced city service through information communication technologies.

2 U-Healthcare

The second of our linked theme issues explores *U-Healthcare* and contains 10 papers.

In the first paper, *A Sensitive Data Aggregation Scheme for Body Sensor Networks Based on Data Hiding* by Jiankang Ren, Guowei Wu, and Lin, a novel sensitive data aggregation scheme based on data hiding for BSNs is explored. The second paper, on ubiquitous healthcare data by Pham Thu Thu Thuy, Young-koo Lee and Sungyoung Lee *Semantic and Structural Similarities between XML Schemas for Integration of Ubiquitous Healthcare Data*, introduces new metrics to compute the datatype and cardinality constraint similarities, which improve the quality of semantic assessment. The third paper is *A method of Identifying Chronic Stress by EEG* by Dangping Fan, Bin Hu, Fang Zheng, Li Liu, Wen Zhao, Xuebin Chen, Yongxia Yang and Qingcui Cai, who analyze overall complexity and spectrum power of certain EEG bands (theta, alpha and beta) collected from high stress versus moderate subjects. The fourth paper is *Efficient Techniques on Retrieving Bio-information for Active U-healthcare* by Young-Ho Park. This paper focuses on a novel method for efficient retrieving of disease patterns using a suffix tree in memory. The fifth paper, *Sleeping Situation Monitoring System in ubiquitous Environments* by Chang-Won Jeong, Su-Chong Joo and Young Sik Jeong, discusses a sleep monitoring system created to support home healthcare services. They discuss the method they used to develop the system, and how to use the sleep activity monitor to support home healthcare. The sixth paper is Effects of *Wheelchair-Based Rehabilitation on the Physical Functions and Health Perception of Stroke Patients* by Hye Jung Choi, Yeon Soo Kim, Doo Soon Park and Hyun Joo Kang, who suggest that wheelchair-based rehabilitation is necessary even for chronic stroke patients, for whom improved of quality of life is improved. The seventh paper, *Encoder Design for Healthcare Signals* by Soon Seok Kim, Yong Hee Lee, Cheon Ho Choi and Jong Hyuk, proposes an encoder to code or store the healthcare signals such as electrocardiograms. The eighth paper is *Generating Knowledge for the Identification of Device Failure Causes and the Prediction of the Times-to-Failure in U-Healthcare Environments*. The authors of this paper, Dong Woo Ryu, Kyung Jin Kang, Sang Soo Yeo and Sang Oh Park, propose a method that generates knowledge used to identify the causes of medical device failures and to predict the times-to-failure (i.e., a period during which a medical device operates without failure). The proposed method enables medical device users to quickly identify the cause of failure when their devices have problems, thereby reducing the cost of failure. In *The relationship between Healthcare Information System and Cost in Hospital* by Kwangsoo Lee, Thomas T.H. Wan and Hyukjun Kwon, the relationship between healthcare information systems (HISs) and cost in hospital is analyzed, along with organizational factors that can affect the adoption of information systems in hospitals. The final paper, *Low Level Light Therapy by Red–Green–Blue LEDs improves Healing in an Excision Model of Sprague–Dawley Rats* by Min Woo Cheon, Tae Gon Kim, Yang Sun Lee and Seong Hwan Kim, looks at how light therapy can assist the human body in treating, sterilizing and regenerating cells.