Guest Editorial Preface

Special Issue on 2016 IEEE International Conference on Electro/Information Technology (EIT 2016) – Part I

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The 2016 International Electro/Information Technology Conference (EIT 2016) was jointly hosted by the University of North Dakota and the North Dakota State University at Grand Forks, North Dakota, USA on May 19-21, 2016. It is one of the premier conferences sponsored by the Region 4 (R4) of the IEEE, the world's largest professional association dedicated to advancing technological innovation and excellence. Various themes related to the fields of electrical and computer engineering and information technologies were covered in this conference. One of the themes of the EIT 2016 is handheld/mobile computing. This special issue includes outstanding papers selected from the Conference. Regular papers submitted to the Journal are also included. A brief introduction of each of the four articles is given next.

Article 1. LiftingDoneRight–a privacy-aware human motion tracking system for healthcare professionals: A novel system, *LiftingDoneRight*, is proposed for healthcare professionals to enhance their compliance with best practices and regulations regarding proper body mechanics for lifting and pulling activities. The system uses Microsoft Kinect to track the motion of consented users non-intrusively. The system relies on the use of a smartwatch to deliver an alert via vibration and text display whenever a wrong activity that violated the proper body mechanics has been detected. A core contribution of this study is a registration mechanism for a healthcare professional to explicitly give permission to the system to monitor his or her activities. Furthermore, a non-intrusive biometrics-based single sign-on mechanism is incorporated into the system to allow a user to be automatically identified for tracking as long as the user has manually registered with the system before.

Article 2. Development of an information quality framework for mechanical engineering modules with enhanced treatment for pedagogical content: In technology based modules, such as those taught in Mechanical Engineering courses, the psychomotor content takes precedence over other domains of teaching and learning. Effective integration of pedagogical content within the Mechanical Engineering modules is of utmost importance for effectiveness in teaching and learning processes in these modules. Published literature is limited in this regard, and hence, the present study focuses on developing a novel an information quality framework for Mechanical Engineering modules, through which an enhanced treatment has been provided to the pedagogical content, in order to meet the educational goals and the industrial requirements worldwide. The novel information quality framework developed in the present study can be used as a guideline for measuring the effectiveness of Mechanical Engineering modules.

Article 3. Proposed framework for mobile decision support systems for higher learning institutions: This paper proposes the MDSS (Mobile Decision Support System) for higher learning institution. In the past, researchers used traditional research techniques such a questionnaire and

interview to understand the way decision makers operate in their respective organizations. Using four higher learning institutions located in Dar es Salaam as case study, data were collected, digitized and analyzed. Results showed that despite having access to computers and other forms of information technologies, most decision makers rely on traditional methods such word of mouth, document review and meetings to arrive to most of their decisions. Many participants expressed their skepticism on the state of the ICT infrastructures as some turned to their subordinates and offline sources as their convenient ways to gather information.

Article 4. Microsense: sensor framework for IoT system-on-chip: This article proposes a universal framework serving as a nodal point to aggregate data from different kinds of devices and sensors. The unified framework provides a robust set of guidelines for sensors with varied degree of complexities connected to common set of System-on-Chip (SoC). These will help to monitor, control and visualize real time data coming from different type of sensors connected to these SoCs. The authors have defined a set of APIs, which will help the sensors to register with the server. These APIs will be the standard to which the sensors will comply while streaming data when connected to the client platforms.

The editors thank the reviewers, authors, and the EIT 2016 personnel for their great help and contributions. Without them, this special issue would not be possible. The Editor-in-Chief appreciates your supports and subscriptions. In addition, your submissions to the IJHCR are the greatest support for it.

Sincerely,

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S. Hossein Mousavinezhad received his Ph.D. in Electrical Engineering from Michigan State University, East Lansing, Michigan. He is currently a professor of the Department of Electrical Engineering Computer Science (EECS), Idaho State University, Pocatello, Idaho. His research interests include digital signal processing, bioelectromagnetics, and communication systems. Dr. Mousavinezhad is a recipient of the Institute of Electrical and Electronics Engineers (IEEE) Third Millennium Medal. He received American Society for Engineering Education (ASEE) Electrical and Computer Engineering Division's Meritorious Service Award in June 2007. Professor Mousavinezhad is a program evaluator for the Accreditation Board for Engineering and Technology (ABET).

Wen-Chen Hu received a BE, an ME, an MS, and a PhD, all in Computer Science, from Tamkang University, Taiwan, the National Central University, Taiwan, the University of Iowa, Iowa City, and the University of Florida, Gainesville, in 1984, 1986, 1993, and 1998, respectively. He is currently an associate professor in the Department of Computer Science of the University of North Dakota, Grand Forks. He was an assistant professor in the Department of Computer Science and Software Engineering at the Auburn University, Alabama, for years. He is the Editor-in-Chief of the International Journal of Handheld Computing Research (IJHCR), the general chairs of a number of international conferences such as the 2015 International Conference on Big Data, IoT, and Cloud Computing (BIC 2015), and associate editors of several journals like Journal of Information Technology Research (JITR). In addition, he has acted more than 100 positions as editors and editorial advisory/review board members of international journals/books, and track/session chairs and program committee members of international conferences. He has also won a couple of awards of best papers, best reviewers, and community services. Dr. Hu has been teaching more than 10 years at the US universities and over 10 different computer/IT-related courses, and advising/consulting more than 100 graduate students. He has published over 100 articles in refereed journals, conference proceedings, books, and encyclopedias, edited more than 10 books and conference proceedings, and solely authored a book entitled "Internet-enabled handheld devices, computing, and programming: mobile commerce and personal data applications." His current research interests include handheld/mobile/smartphone/tablet computing, location-based services, web-enabled information system such as search engines and web mining, electronic and mobile commerce systems, and web technologies.