Editorial for Advances on Cognitive, Mobile and Ubiquitous Systems Special Issue

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1 Editorial

Welcome to the section of Mobile and Ubiquitous Systems for this special issue. This section features six high quality papers selected from MobiQuitous 2013, which was held in Tokyo, Japan, December 2–4, 2013.

The first article “Check out the Rules: towards Time-Efficient Rule Checking over RFID Tags” by Yafeng Yin, Lei Xie, Sanglu Lu and Daoxu Chen investigates the problem of time-efficient rule checking over a large number of RIFDS tags. To achieve the time efficiency during the rule checking execution, the authors first propose a collision detection based protocol named CRCP, and further present an enhanced ruling checking protocol ECRCP by the combination of the collision detection and the logical features of the rules.

The second article titled “Locating in Crowdsourcing-Based DataSpace: Wireless Indoor Localization without Special Deices” by Yuanfang Chen, Lei Shu, Antonio M. Ortiz, Noel Crespi and Lv Lin discusses the indoor target locating problem in mobile social environment. Motivated by the large amount of available crowd-sourced data on human behavior, the authors first show by analysis that the

existence of crowd behavior could be recognized with location-based wireless mobility information. Based on this line, they further design a novel indoor locating algorithm by the integration of crowdsourcing-based dataSpace and acquired wireless information, which could avoid the infrastructure deployment in existing previous radio-based indoor locating solutions.

The next article “Effective On-Demand Mobile Charger Scheduling for Maximizing Coverage in Wireless Rechargeable Sensor Networks” by Lintong Jiang, Xiaobing Wu, Guihai Chen and Yuling Li considers the problem of on-demand scheduling mobile chargers over wireless rechargeable sensor networks. To maximize the covering utility, the authors formulate the scheduling problem as an optimization one with NP-Completeness complexity and present three heuristic algorithms. They further generalize the proposed solutions to accommodate the multiple mobile chargers case.

The fourth article, “Smartphones Apps Implementing a Heuristic Joint Coding for Video Transmissions over Mobile Networks” by Igor Bisio, Fabio Lavagetto, Giulio Luzzati and Mario Marchese proposes a heuristic joint coding scheme for adaptive video transmission which is able to adaptively vary both the applied video compression and the source encoding at the application layer. Based on the acknowledgement of the transmission rate as well as the estimated maximum allowable network throughput and link lossiness, they implement the proposed scheme in smartphone with a transmitter App and a receiver App.

The fifth article titled “Modeap: Moving Desktop Application to Mobile Cloud Service” by He Li, Peng

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Li, Song Guo, Xiaofei Liao and Hai Jin, presents a platform a platform-independent mobile cloud service referred as Modeap, to enable the migration of desktop applications developed for various operating systems from cloud servers to mobile devices. Following the design principle of complete detachment and regeneration of desktop user interface, the authors define a set of standard web-based graphical primitives to support the interaction between users and remote cloud applications via mobile web browsers. They also develop a proof-of-concept prototype provides Windows applications from cloud server to mobile web browsers.

In this last article with the title “Quality of Service Modeling of Virtualized Wireless Networks: A Network Calculus Approach” co-authored by Lianming Zhang, Jia Liu and Kun Yang, the authors take a theoretical analysis of QoS optimization in virtualized wireless networks. They present a QoS model by considering the resources of both physical nodes and virtual nodes, and provide a realistic modeling of the delay and bandwidth behaviors of wireless virtual network by utilizing the network calculus. Their theoretical and experimental results show that the proposed QoS model is useful for both off-line network planning and online network admission control.

All the selected papers were edited by the International Editorial Committee inviting foreign researchers as reviewers. The guest editors are thankful to the reviewers for their great effort in reviewing the manuscripts. We also thank the Edit-in-Chief, Dr. Imrich Chlamtac for his supportive guidance during the entire process.

above areas. He served as the TPC co-chair of HotPOST'12, HotPOST'11, P2PNet'10. He is the regent of CCF and a member of IEEE, ACM.

a Full Professor at the School of Electrical Engineering and Computer Science at the University of Ottawa. His research interests are in the area of distributed systems, cloud computing and mobile ad hoc networks. He has co-authored two books and published over 200 research papers.

Dr. Baoliu Ye received his PhD degree in computer science from Nanjing University, China in 2004. He is currently an associate professor at the department of Computer Science and Technology, Nanjing University, China. He served as a visiting researcher of the University of Aizu, Japan from March 2005 to July 2006. His current research interests include Peer-to-Peer (P2P) computing, online/mobile social networking, and wireless network. He has published over 40 technical papers in the

Dr. Amiya Nayak received his Ph.D. degree from Carleton University in 1991. He has over 17 years of industrial experience in software engineering, avionics and navigation systems, simulation and system level performance analysis. He is in the Editorial Board of several journals, including International Journal of Parallel, Emergent and Distributed Systems, International Journal of Computers and Applications, and EURASIP Journal of Wireless Communications and Networking. Currently, he is