Special Issue on Ubiquitous and Collaborative Computing

Guest Editorial

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The special issue contains extended selected papers of the 2010 International Workshop on Ubiquitous and Collaborative Computing (iUBICOM 2010) which was held in Dundee, UK in September 2010. Two papers are selected through an open call for papers. Additionally, an invited paper is included in the special issue.

The main aim of this special issue was to collect original research papers that present recent advances and future directions in this field. Theoretical and practical contributions from the authors working in this field were solicited. This special issue contains a diverse collection of high-quality papers authored by eminent academicians and researchers in the field of ubiquitous and collaborative computing.

Ubiquitous and collaborative computing is an important and fast growing research area but the development of ubiquitous and collaborative computing is still in its initial stage. In this constantly changing era, the needs of the users have also been changed. Keeping in view of future demands of the users, ubiquitous and collaborative computing poses new challenges for the research community working in this emerging field to satisfy the end users requirements.

In the invited paper, Singh, G., proposes optimization of spectrum management issues in cognitive radio. The proposed scheme emphasizes on the role of interference due to various sources and examine the main techniques for calculating the sensing time and also compares the results while keeping in mind the trade-offs that can be feasible.

In the first paper, Cristina A., discusses the results of a study that analyzes a hybrid course for in-service teachers in the Project Teletandem Brazil: foreign languages for all. The aim of the study was to verify Brazilian teachers' concepts and beliefs concerning language and culture and how the teletandem interactions affected them. After the interactions, teachers' views of culture seemed to also incorporate aspects of culture as an interpersonal process, instead of the factual and static view which was previously predominant. Therefore teacher education programs must consider the possibility of conjugating theory and reflective practice through the use of videoconference tools in order to allow teachers to experience culture rather learn facts about it.

In the second paper, Kapralos B., et. al, propose a Serious Game for Training Health Care Providers in Inter professional Care of Critically-Ill and Chronic Care Patients. Authors described the role of serious games to provide comprehensive health care through the development of a clear understanding and appreciation of the roles, expertise, and unique contributions of multiple disciplines.

In the third paper, Holroyd P., et. al, present a bespoke solution for a real time reconfigurable audiovisual routing system for capture and playback within a pervasive multimedia environment. The solution presented removes the need for the user to have any knowledge of the underlying hardware within the laboratory by creating a software layer used to re-route audiovisual capture, output, and playback. It allows for rapid setup giving users more freedom with experiment design, enabling them to design practically any type of experiment for large groups of people. Furthermore, experiments have a more realistic outcome as designs can be modified during runtime.

In the fourth paper, Kumar, K., et. al, propose a deployment conscious security framework supporting, a shift of complex operations to more capable nodes of heterogeneous environment and relieving resource constrained generic sensor nodes of major activities. Authors introduced a concept of deployment knowledge independent group key generation using a special kind of heterogeneity-multilevel transmission. Performance of proposed key management schemes is evaluated across relevant matrices and concluded to be satisfactory. Findings show that asymmetric key cryptography is comparatively more demanding in resources than symmetric version but ensures maximum security.

In the fifth paper, Iqbal, R., et. al, investigate the use of Web 2.0 technologies such as social networking sites, blogs, wikis, mash-ups and YouTube for Activity-Led Learning (ALL) in computer science in order to promote better engagement and an enhanced experience amongst learners. Group work is an important part of ALL where

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the focus is on students learning through self-directed investigation, discovery and doing, rather than through the traditional approach of tutorials or laboratories.

At the end, Guest Editors would like to extend sincere thanks to all the people who have contributed their time and efforts in making this special issue a grand success. We are thankful to all the authors who have contributed their papers for this special issue. We are thankful to all the reviewers for providing their valuable suggestions and comments to the submitted manuscripts. We are also thankful to Editor-in-Chief, Prof. Sabah Mohammed, for his encouragement and strong support during the preparation of this special issue.

Dr. Neeraj Kumar is working as Assistant Professor in School of Computer Science and Engineering, Shri Mata Vaishno Devi University, Katra(India). He received his Ph.D. in CSE from Shri Mata Vaishno Devi University, Katra(India) and PDF from UK. He has more than 30 publications in reputed journals and conferences including IEEE, Springer and ACM. His research is focused on mobile computing, parallel/distributed computing, multiagent systems, service oriented computing, routing and security issues in wireless adhoc, sensor and mesh networks. He is leading the Mobile Computing and Distributed System Research Group. Prior to joining SMVDU, Katra he has worked with HEC Jagadhri and MMEC Mullana, Ambala, Haryana, India. He has delivered invited talks and lectures in various IEEE international conferences in India and abroad. He has organized various special sessions in international conferences in his area of expertise in India and abroad. He is TPC of various IEEE sponsored conferences in India and abroad. He is reviewer/ editorial board of various international journals e.g. Journal of Network and computer applications (Elsevier), Future generation computer systems (Elsevier), Wireless personal communications (Springer), Eurasip journal of wireless communication and networking (hindawi), International Journal of Network Security (IJNS), Journal of Emerging Trends in Web Intelligence, Journal of Advances in Information Technology, IJCA and many more. He has edited/ is editing the special issue of many international journals such as from Inderscience, Academy publishers etc. He is senior member of ACEEE and IACSIT.

Dr. Rahat Iqbal is a Senior Lecturer in the Distributed Systems and Modelling Applied Research Group at Coventry University. His main duties include teaching and tutorial guidance, research and other forms of scholarly activity, examining, curriculum development, coordinating and supervising postgraduate project students. His research interests lie in requirements engineering, in particular with regard to user-centred design and evaluation in order to balance technological factors with human aspects to explore implications for better design. A particular focus of his interest is how user needs could be incorporated into the enhanced design of ubiquitous computing systems, such as smart homes, assistive technologies, and collaborative systems. He is using Artificial Intelligent Agents to develop such supportive systems. He has published more than 50 papers in peer reviewed journals and reputable conferences and workshops.