Mobile and Ubiquitous Multimedia

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Mobile and Ubiquitous Multimedia (MUM) is an annual international conference sponsored by ACM, which provides a forum for presenting the latest research results on mobile and ubiquitous multimedia. Every year, the conference brings together experts from both academia and industry over a period of 3 days in mid-winter, and boasts a rich technical program with plenty of opportunities for discussion and interaction with colleagues.

MUM 2010, which took place in early December in the beautiful town of Limassol in Cyprus, was no exception. Sixty-two high-quality qualifying submissions were received from 20 countries across Europe, North America and Asia and 27 were selected for presentation at MUM. The papers presented covered areas, such as architectures, protocols and algorithms, middleware, interfaces, security, media management, social networks, user studies, field trials, and their application in areas, such as streaming, games, entertainment, transportation, location and context awareness, and intelligent and adaptive environments.

This special issue comprises the extended versions of five papers originally submitted at MUM 2010 that have since successfully made it through two additional rounds of reviews. The selection process was particularly tough because a very high number of quality contributions were up for consideration for the special issue. The editor has made no effort to select papers of matching content but rather papers that are representative of the work presented at MUM 2010 and which promote understanding of the wider problems and issues which are pursued by

researchers and practitioners working in the field. As a result, some papers of truly high quality had to be omitted from this special issue.

Dinesh Babu Jayagopi and Daniel Gatica Perez of the Idiap Research Institute in Switzerland and Taemie Kiim and Alex Pentland of the MIT Media Lab in the USA address recognition of the different group conversational contexts during brainstorming and decision-making interaction using nonverbal behavioural cues and record their data using privacy-sensitive mobile sociometers. Their experiments serve to reveal that group communication patterns and dynamics are significantly different between the two.

Andreas Löcken, Niels Henze and Susanne Boll of the University of Oldenburg in Germany and Tobias Hesselmann and Martin Pielot of the Research Institute for Information Technology, also in Germany, propose a user-centred process for deriving gestures for controlling music playback. The resulting gesture set can serve as a benchmark for evaluating gesture recognition algorithms.

Matthias Rehm of Aalborg University in Denmark and Karin Leichtenstern of Augsburg University in Germany present a gesture-based approach to intercultural training in non-verbal behaviour that makes use of what they call “enculturated” virtual agents, interactive systems that utilise cultural heuristics for interpreting and generating behaviour. A mobile system they have developed adopts the sensory capabilities of smart phones for gesture recognition during user interaction.

Yefeng Liu, Todorka Alexandrova and Tatsuo Nakajima of Waseda University in Japan and Vili Lehdonvirta of the Helsinki Institute for Information Technology in Finland present a mobile crowd sourcing platform that is built on top of social media. A resulting crowd sourcing application aims to assist foreign visitors by calling on the locals

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to answer image-based questions using social media platforms and then visualising the results using augmented reality technology.

Damon Daylamani Zad, Marios Angelides and Harry Agius of Brunel University in the UK consider how players of Massively Multiplayer Online Games can enjoy a ubiquitous and personalised gaming experience. Their personalised ubiquitous gaming framework, which they

call “Artemis”, uses MPEG-7 which is not traditionally used in games for modelling the player, their device and the game, in conjunction with genetic algorithms for personalising a game.

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Guest Editor
(MUM 2010 Conference Chair)