

Multimedia systems journal special issue on Mobile Multimedia applications

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Guest Editorial

The speed and the quality of expanding and creating a vast variety of multimedia services like voice, email, short messages, Internet access, m-commerce, to mobile video conferencing, streaming video and audio have brought true Mobile Multimedia experiences to mobile customers. Due to constant changing environments, limited battery life and diverse data types, Mobile Multimedia implies considerable challenges to operators, infrastructure builders in terms of ensuring fast, reliable services and accommodating the quick growing global customer needs.

In this special issue, we present selected papers presented at the 8th International Conference on Advances in Mobile Computing and Multimedia (MoMM2010), held in Paris, France from the 8th to the 10th of November 2010. The papers have been extended significantly from their conference version, to include a thorough literature review and more advanced result.

In addition, we have also received several direct submissions as a response to our call for papers. After the review process, we are pleased to include seven papers in this issue, five of which came from extended version of MoMM2010 conference papers and the other two came from direct submissions.

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In the first paper, Adany, Kraus and Ordonez investigate the area of personalized TV ads to improve the effectiveness of ads distribution to targeted viewers. They study the parameters that contribute to uncertainties of ads allocations to the viewers. Depending on the existence of uncertainties factors, they propose algorithms that can improve the revenue for TV ads allocations. For validation of results, the paper also demonstrates a set of simulation.

In the next paper, Rehman and Hussain aim to improve the effectiveness of multimedia content recommender system by utilizing users' rating frequency in a similarity measure. The proposed algorithm is tested by comparing it with four commonly used similarity measures using different type of data sets.

In the next paper, Shahbahrami, Rad, and Attar aim to improve the quality of lossless image compression system. They propose gradient-based tracking and adaptive method into an effective predictor for image compression system. They compare their predictor with existing predictors using mathematical and visual approaches.

Ota, Aoyama, Watanabe, Ito, Miyake and Aoki want to improve their existing palmprint-based biometric authentication system by applying them in mobile phones. The previous schemes cannot be mapped directly into mobile phones due to various technology and physical constraints and therefore, in this paper, they utilize other technique to pre-process the palmprints. They implement the schemes using two types of Android devices and evaluate the outcome based on the accuracy and the processing time. They also add evaluation of their schemes in terms of security and usability.

In the next paper, Rahman and Saddik propose a framework that can be used to improve learning activities by streaming media embedded with learning objects. The framework enables customization to validate learners'

identity, track their progress and receive annotated information from them. A prototype is developed and experiments are performed in a technology-augmented learning space to show the suitability of the proposed framework. Based on a usability study, the prototype is well-received and can achieve educational goals, as well as can be entertaining.

Al-Khalidi, Taniar and Safar investigate query processing in spatial network databases (SND). Instead of aiming for exact results, the authors argue the sufficiency of approximate range results for SND queries. They propose two approximate range search methods to reduce the number of false hits and to reduce the number of network distance computations. The experiments show that the proposal is highly accurate and robust.

In the last paper, Garrido-Cantos, De Cock, Martínez, Van Leuven, Cuenca, Garrido and Van de Walle investigate the recently standardized Scalable Video Coding (SVC) that claims to have a higher scalability rates than existing video-coding standard. It is made possible due to SVC organization of bitstreams into different layers. The authors propose a video transcoding to transform single layer bitstream to SVC bitstreams. They conduct simulations and the result is provided to justify the proposal.

To conclude the special issue, the guest editors and MoMM2010 organizer would like to thank MSJ Editor-in-Chief and Springer for the collaboration opportunity. We would also like to thank the authors who have prepared and revised the papers in timely manner.