Guest Editors’ Introduction: Special Section on Connected Multimedia

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Social media has received extensive attention recently and has become a very popular research area due to its wide spectrum of applications. We note that even though the whole area of social media is very popular in the literature, there are a group of research issues that are related to the social-cultural constraints in the social media study that have not yet received sufficient attention. In this context, we group all these issues together under the umbrella of a new sub-area of social media that we call connected multimedia.

Consequently, by connected multimedia, we mean the study of the social and technical interactions among users, multimedia data, and devices across cultures and the explicit exploitation of cultural differences. Hence, connected multimedia involves the three elements – the users, the multimedia data, and the devices – with two perspectives – the social focus and the cultural focus. In short, connected multimedia is about multimedia content and connection across community and cultural boundaries. In comparison with those existing research areas including social media as its super-area and human centered computing, we here emphasize that connected multimedia pays more attention to the cultural difference. The definition of the social side is broader than just national cultures; it possibly includes cultures of groups, disciplines, organizations, communities, ethnicities, religions, and nations. This emphasis distinguishes connected multimedia from all other existing areas such as social media and cross-media, which may either claim to include some of these aspects, among many others, or have different foci.

This special section is organized following the successful first two editions of the workshop on the newly emerged theme of connected multimedia held in Hangzhou, China, in October of 2009 and in Florence, Italy, in October, 2010. After two rounds of rigorous reviews for all the submissions in response to the CFP of this special section, we have finally selected three papers to be included in this special section on connected multimedia.

The paper “Association of Moving Objects across Visual Sensor Networks” by M.J. Mirza and N. Anjum presents an inter-camera trajectory association algorithm for partially overlapping visual sensor networks; the paper addresses issues related to trajectory extraction, representation, and association. The paper “Faceted Subtopic Retrieval: Exploiting the Topic Hierarchy via a Multi-Modal Framework” by J. Sang and C. Xu presents a new framework for multi-modal analysis and retrieval called faceted subtopic retrieval that is tailored to complex queries to the social media data on the Web concerning political and social events or issues. A LDA-like model is developed to exploit the intrinsic topic hierarchy inside the retrieved data. The paper “Tour Route Recommendation Begins with Multimodal Classification” by X. Chen and Q. Wang addresses the problem of location estimation for tourist photos; the paper proposes a solution that begins with classification and exploits explicitly the textual, temporal, geographic, and visual information together for a tour route recommendation. Overall, all the three papers address the theory and application case studies on the general topic of connected multimedia.

While this editorial is co-authored by the guest-editors who also organized the two editions of the workshop on the same topic that actually led to this special section, many people have contributed the ideas that have finally led to the development of this topic of connected multimedia in the literature. Specifically, Noshir Contractor, Alan Hanjalic, Alexander G. Hauptmann, Xian-Sheng Hua, Alejandro (Alex) Jaimes, Ivan Ivanov, Michael S. Lew, Wanqing Li, Ching-Yung Ling, Alexander C. Loui, Jiebo Luo, Michael W. Macy, Nicu Sebe, Qi Tian, Yonghong Tian, Vincent S. Tseng, Qing Wang, Changsheng Xu, Huimin Yu, and Shiwen Yu deserve the credit for contributing their ideas to the development of the literature on this topic. Finally, we would like to thank Dr. Jie Yang, US NSF Program Manager, for the support to the development of this effort and Dr. Jiebo Luo, the EIC of Journal of Multimedia, for the support to publishing this special section. We also acknowledge US NSF (through grant IIS-0956924), Zhejiang University College of Computer Science and Technology, Microsoft Research, and ACM for sponsoring the two editions of the workshop on connected multimedia that led to this special section. This effort of editing this special section is also supported in part by US NSF (IIS-0812114, CCF-1017828) and National Basic Research Program of China (2012CB316400).

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doi:10.4304/jmm.7.1.1-1