The Third ACM International Workshop on Interactive Multimedia on Mobile and Portable Devices (IMMPD'13)

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ABSTRACT
With the mobile and portable devices become ubiquitous for people's daily life, how to design user interfaces of these products that enable natural, intuitive and fun interaction is one of the main challenges the multimedia community is facing. Following previous successful events, the third ACM International workshop on Interactive Multimedia on Mobile and Portable Devices (IMMPD'13) aims to bring together researchers from both academia and industry in domains including computer vision, audio and speech processing, machine learning, pattern recognition, communications, human-computer interaction, and media technology to share and discuss recent advances in interactive multimedia.

Categories and Subject Descriptors
F.1.2 [**Theory of Computation**]: Modes of Computation – *Interactive and reactive computation.* H.5.2 [**Information Systems**]: Information Interfaces and Presentation – *User Interfaces* I.1.2 [**Computing Technologies**]: Artificial Intelligence I.1.4 [**Computing Technologies**]: Image Processing and Computer Vision. I.1.5 [**Computing Technologies**]: Pattern Recognition

Keywords
Multimedia, Human-Computer Interaction, Consumer Electronics, Computer Vision, Pattern Recognition.

1. INTRODUCTION
With the development of silicon technologies, mobile and portable electronics devices, such as personal computers, mobile phones, digital cameras, and PDA, have become ubiquitous for people's daily life. These devices provide multimedia sources for entertainment, communication, and so on. How to design user interfaces of these products that enable natural, intuitive and fun interaction is one of the main challenges the multimedia community is facing.

Considering that mobile and portable devices are usually supplied with multiple sensors (e.g., camera and microphone), how to employ multimodal information for interaction has recently received much attention in both academia and industry. But interactive multimedia is still an under-explored field. Many challenges exist when moving to multimodal interaction: for example, how to annotate and search huge data acquired by using multiple sensors, especially in the unconstrained end-user environments? How to effectively extract and select representative multimedia features for human behavior recognition? How to select the fusion strategy of multimodal data for a given application? To address these challenges, we must adapt the existing approaches or find new solutions suitable for multimedia interaction on mobile and portable devices.

Multimedia interaction on mobile and portable devices is a hot topic, and records of recent ACM Multimedia conferences demonstrated this trend. Recent efforts have led to many exciting applications and products (prototypes). The major objectives of this workshop are: 1) collecting and seeking the recent advances in multimedia interaction; 2) exploiting potential challenges and possible advanced solutions in terms of theory and practice, and 3) illustrating the great value of multimedia interaction with successful real-world applications. The participants can also get in touch with a variety of recent techniques as well as the case studies of different tasks from multimedia interaction applications. This workshop can also serve to bridge laboratory research and industrial practice to a considerable degree.

This workshop builds upon the previous workshops and events organized by the workshop organizers: the second International Workshop on Interactive Multimedia on Mobile and Portable Devices (IMMPD'12), ACM Multimedia, 2012, the first International Workshop on Interactive Multimedia on Mobile and Portable Devices (IMMPD'11), ACM Multimedia 2011, and International Workshop on Interactive Multimedia for Consumer Electronics (IMCE'09), ACM Multimedia, 2009. The targeted audiences are mainly researchers, engineers as well as graduate students working on relevant areas.

2. TOPICS OF INTEREST

Topics related to interactive multimedia on mobile and portable devices include:

- o Multimedia description and markup
- o Multimedia representation and annotation
- o Multimedia search and retrieval
- o Presence and environment sensing
- o Face detection, tracking, and recognition
- o Hand detection, tracking, and recognition
- o Emotion/mood recognition
- o Gesture/action/activity recognition
- o Audio-visual recognition and interaction
- o Novel interaction (accelerometer, touch screen, haptics, voice, etc.)
- o Multimodal data modeling and fusion
- o Multimedia content adaptation
- o Context-aware services
- o Interaction with depth-sensing
- o Social media computing and interaction

3. TECHNICAL PROGRAM

Based on review comments, seven papers are accepted for this workshop, covering different related topics. The accepted papers are from industry and academia, representing diverse geographic locations including USA, Europe, Japan, Singapore, Taiwan, and China.

The accepted papers are

- Optimized Speech Balloon Placement for Automatic Comics Generation, Wei-Ta Chu and Chia-Hsiang Yu (National Chung Cheng University, Taiwan)
- A Smart Watch-based Gesture Recognition System for Assisting People with Visual Impairments, Lorenzo Porzi, et al. (Fondazione Bruno Kessler, Italy)
- Convex object surface mapping for wide field of view video representation, Dan Mikami, et al. (NTT Lab, Japan)

- Sound Preferences of Deaf and Hard of Hearing People Playing an Audio-Based Computer Game, Rumi Hiraga and Kjetil Hansen (Tsukuba University of Technology, Japan)
- Hand Segmentation and Gesture Recognition in EGO-Vision, Giuseppe Serra, et al. (University of Modena and Reggio Emilia, Italy)
- Energy Efficient Multi-player Smartphone Gaming using 3D Spatial Subdivisioning and PVS Techniques, Anand Bhojan and Zeng Qiang (National University of Singapore, Singapore)
- Improved Binary Feature Matching through Fusion of Hamming Distance and Fragile Bit Weight, Dongye Zhuang (Chinese Academy of Sciences, China)

4. PROGRAM COMMITTEE

We would like to express our gratitude to the program committee, who worked very hard in reviewing papers and providing suggestions for their improvements. The Program Committee members and their affiliations are listed as follows.

- o Marco Bertini, University of Florence, Italy
- o Xavier Binefa, University of Barcelona, Spain
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