ACM International Workshop on Social, Adaptive and Personalized Multimedia Interaction and Access (SAPMIA 2010)

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ABSTRACT
In an effort to address and overcome some of the open issues that hinder effective access and interaction of multimedia content, this workshop will bring together individuals from a number of research communities, including but not limited to Multimedia Distribution and Access, Social Network Analysis, Multimedia Content Analysis, and User Modelling Adaptation and Personalization. It is our belief that a synergetic approach involving these areas of work can exceed their individual potentials, leading to improved access, understanding, and retrieval of multimedia content. The main objective of this workshop is to provide a forum to disseminate work that explicitly exploits the synergy between multimedia content analysis, personalisation, and next generation networking and community aspects of social networks. We believe that this integration could result on robust, personalized multimedia services, providing users with an improved multimedia experience.

Categories and Subject Descriptors
H.5.1 Multimedia Information Systems

General Terms
Experimentation, Design, Algorithms, Human Factors.

Keywords
Social, adaptation, personalization, interaction, access.

1. INTRODUCTION
In recent years, there has been an unprecedented increase in the creation and consumption of digital information. In addition, the now ubiquitous nature of the Web has resulted in an ever growing amount of multimedia content available on the Web for both casual and professional users. Internet content is increasingly made up of distributed media that is produced, managed and consumed by communities of users who are often linked through social networks. As such, there is an urgent and growing need to facilitate effortless user access to these distributed media archives. Typical approaches for assisting information access, such as browsing, searching, filtering, or recommendation techniques, although quite advanced in the textual domain, are still in their infancy with respect to the multimedia content domain. This can be attributed in the most part to the myriad of additional problems that exist in the multimedia domain in comparison to user interaction with text. These problems include, among others: 1) the multimodal nature of multimedia content, as multimedia documents can have associated visual, audio and textual information that have to be exploited accordingly; 2) the lack of textual annotations associated with multimedia content, which hinders the application of textual based retrieval techniques; 3) the presentation of multimedia content to the user, e.g., how to adapt the content to the user's device capabilities or how to present a large amount of multimedia contents at once; and 4) the so-called Semantic Gap problem, which is the difference between the low level descriptors of images and videos and the semantic concepts that we associate to them.

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2. CONTRIBUTION
The main goal of this workshop will be to present, discuss and develop new adaptation and personalization approaches from which users of multimedia can benefit. The hope is that, by attracting researchers from multiple research areas, we will share expertise, knowledge and difficulties, and that this merging of knowledge will lead to the discovery of the common problems that exist for researchers in different areas. Ultimately this will encourage new and innovative solutions for these common problems and hopefully open new research topics in the Multimedia Access domain.

Participants of this workshop will inspect and share different views on the following open questions:

- How can the use of adaptation and personalization techniques facilitate users by providing improved access of a vast amount of multimedia content distributed over the Web?
- How can personalised services be offered to users in a real time, ubiquitous, robust, seamless and comprehensive way, through a comprehensive context framework that targets Quality of Experience rather than the traditionally sought Quality of Service?
- How can multimedia content analysis and multimedia adaptation be combined with information derived from social

interactions and social network structures in order to improve personalised content distribution?

- Are adaptation and personalized approaches a good way of bridging the semantic gap? If so, which methods can be used to achieve this? What are the benefits of these approaches?

3. TOPICS OF INTEREST

This workshop is distinct from and complementary to previous initiatives in that it involves the integration multimedia content analysis techniques with information derived from users, networked communities, and context awareness. The aim of the workshop is to cover the following topics

Personalization and Adaptation of Multimedia Content

- Personalized access to multimedia content.
- Multimedia content-based recommendation and collaborative filtering.
- Interactive multimedia systems.
- Semantic technologies for multimedia content personalization and adaptation.
- Adaptive models for exploration of multimedia archives: adaptive browsing, collaborative search.
- Adaptive user interfaces for multimedia browsing and searching.
- Sentiment analysis on multimedia systems.
- Evaluation of adaptive multimedia systems.

Social Networks on Multimedia Applications

- Social networks analysis to multimedia content personalization and adaptation.
- Multimedia interaction in networked communities.
- Social multimedia applications (e.g. P2P applications, Multimedia broadcasting, social collections & networking, lifelogging, QoE of content delivery).

Distributed Media

- Ubiquitous access to multimedia content and pervasive multimedia content delivery.
- Techniques for robust and scalable distribution of multimedia content.
- Robust distribution of multimedia services over heterogeneous networks and access technologies.

4. WORKSHOP SUMMARY

A total of 7 short position and 7 full research papers were accepted for publication. Due to the high amount of accepted papers, it was decided to select a total of 3 full research papers and 6 short position papers to be presented in oral form, with 30 min. and 20 min. presentations, respectively. The rest of papers were selected for a presentation in a poster session

A number of approaches have investigated the application of content selection techniques to summarize video content. In the paper entitled "Towards a Self-Organizing Replication Model for Non-Sequential Media Access", Sobe et al. present a biologically-inspired approach to select specific interesting parts of a video. In "Introducing RISPlayer: Interactive Generation of Personalized Video Summaries" Valdes and Martinez present an interactive application for real-time video summary generation and visualization. Jiang and Zhang propose in "A Content-Based Rapid Video Playback Method Using Motion-Based Video Time Density Function and Temporal Quantization" a novel video motion measure and a quantization method for the selection of representative keyframes.

Accepted papers also focus on multimedia visualization and adaptation techniques. Regarding visualization, in "Adaptive Video and Metadata Display using Multimedia Documents", Concolato presents an approach for the adaptation of the visualization of multimedia content and metadata. Gallea et al., in their paper "Browser Independent Content-Based Image Resizing for Liquid Web Layouts" propose a content-aware image resizing technique to be integrated into Web explorers with liquid layouts.

Several user studies have also been accepted for publication. Krishna and Indurkhya present an empirical study about the relation between two parameters found in the South Indian music in "A Behavioral Study of Emotions in South Indian Classical Music and Its Implications in Music Recommendation Systems". In "Towards Characterizing Users' Interaction with Zoomable Video" Carlier et al. perform a user study over a Web-based zoomable video player. In "Why did you take this photo? A study on user intentions in digital photo productions" Lux et al. provide a subjective analysis of users' intentions when creating media. In "Finding the User's Interest Level from Their Eyes" Mirza and Izquierdo investigate the use of eye tracking techniques in order to extract new features to improve semi-automatic image annotation approaches.

Adaptive Multimedia retrieval and browsing has also been considered in some of the accepted publications. For instance, Krishna et al., in their paper "REM - A Ray Exploration Model That Caters to The Search Needs of Multi-Attribute Data" present a novel exploration model for multimedia collections, based on connecting multimedia items in a graph. Janjusevic et al. present in "Concept based Interactive Retrieval for Social Environment" an interactive image retrieval framework, which allows the user to compose high-level concept queries.

A number of other interesting pieces of research were also accepted for presentation, Pnevmatikakis et al. investigate in "Tracking for Context Extraction in Athletic Events" the improvement of annotation techniques in video content related to athletic events for content adaptation and personalization. In the area of recommender systems, in "My Personal Media Entertainer: Context-Adaptive Content Recommendation and Delivery" Spedalieri et al. describe a framework for context-adaptive content recommendation and delivery. Ardito et al. present in “Combining Multimedia Resources for an Engaging Fruition of Cultural Heritage” a cultural heritage application that can be tailored to different types of visitors. Finally, in "Analysing Multimedia Content In Social Networking Environments" Ramzan gives his position on the expected evolution of networked media retrieval systems.

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