Chapter 46 "Katie's Swiss Trip": A Study of Personal Event Models for Photo Sharing

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ABSTRACT

There is currently a trend in media management and the semantic web to develop new media processing methods and knowledge representation techniques to organize and structure media collections around events. While this increased interest for events as the central aggregator of media is supported by strong research in the fields of knowledge representation and computer vision; it is not yet clear how the digital era users use events when sharing their personal media collections. In this article, the authors first analyze and discuss a survey on photo-taking behavior and then explore a dataset of publicly available online albums to find out how users share photos. Based on the results of these studies, the authors show that, while media sharing services do not support events as yet, users still share their media around personal events, either by providing explicit spatio-temporal metadata in free text form, or by using an event-centric vocabulary when titling their collections of photos.

INTRODUCTION

With the increased availability of digital capturing devices, people now build large personal media collections; what is then done with these media has drastically changed in the last years with the emergence of popular photo sharing services like Flickr or Picasa and of social networks sites such as Facebook and Instagram. Understanding how people organize and share their digital collections is key to building better tools that accommodate for the users' needs instead of forcing them to change their mental models to fit a fixed software workflow. The digital photo organization

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workflow has changed with the introduction of new technologies and of methods to share media online: the user's goal is now, not only to archive media for a personal use but also to share these with relevant contacts online. Therefore, the issue is not only the one of organizing the user personal media collection for better future search and retrieval, but also the one of organizing shared media for visibility to the relevant people and for future search and retrieval of these media; not just by the author that built the collection but also by these relevant people.

Until recently, the "album" concept was one of the main metaphors for helping users to organize their personal collection, thus staying close to how physical photo prints were organized previously. However, new metaphors of organization are now emerging to leverage more complex indexing and search in the virtual space. Flickr, for instance, has introduced a very loose organization system, focusing on tags to group photos. In addition, with the availability of ubiquitous GPS technology, media management services have introduced the possibility to "geotag" media and to browse and search them with location-centric interfaces. Some have also introduced search and navigation services based on who is in the photo and when it was taken, using the metadata provided by the camera and advanced image recognition.

Such uses of media metadata are moving away from the physical photo album metaphor. However, there is still a semantic gap between a) the low level metadata, b) the high level information of who is in the photo or where it was taken and c) how people group their media for personal archiving and sharing. In fact, most popular media management services still provide the "album" metaphor as people have a need to group media together in ways that are more meaningful to them than just a location or time aggregations. Some researchers (see following section) are thus focusing around the *event* metaphor to combine metadata and represent part of the higher-level intent of the users when they group their media.

While this metaphor is backed by some early user studies, these were led before the large adoption of social media sharing services and there has been little recent research on how users actually use events digitally to organize and share their media. Discovering if this is the case is not an easy task, and in this article we discuss a study of the sharing behavior of users on Flickr and Picasa to see if they are currently using events when sharing their photos online. We first introduce the current work on event representation for media management and the semantic models of events (Section Events for Media Organization). In the following sections we discuss how we have collected data on Flickr and Picasa (Section Data Collection), how people use event metadata when organizing in the *album* metaphor of these sites (Section A Given Place and Time) and how, even when they do not explicitly use such metadata, they often share media by using an event-centric vocabulary (Section An Event Vocabulary).

EVENTS FOR MEDIA ORGANIZATION

It seems that people take photos to archive important events and share within their close community. This hypothesis is supported by Rodden and Wood (2003), who found that people classify their photos chronologically, grouping these photos by events in their lives, although their work is limited to off-line photo collections. Lansdale and Edmonds (1992) showed similar results on a system designed to take advantage of autobiographical memory to produce event-centric organization, even if their work was aimed at general file organization and not specifically on digital photos. Chalfen (1987) has already observed event-centric photo organization even before the advent of digital photography: he argues that people do not share pictures per se but use them to tell a story. More recently, the user study conducted by Miller and Edwards (2007) similarly concluded that users took photos 13 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

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