

Photo Album Visualization as a Collection of Memories and Experiences

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Digital photography has existed for nearly 20 years (since 1991). About ten years later the first mobile phone with an integrated camera was manufactured and nowadays more than 90% of mobile phones have a built-in camera. More than 36 billion photographs were uploaded to the biggest social network Facebook during the year 2010 to share users' social activities.

The character of mobile photography or the way how Facebook users share their photos proves that for most people a photo gallery is a way how to present experiences from their holidays, trips and events. In most cases, taking pictures is a process of saving memories via a camera and therefore the visualization of photo albums should communicate these memories to make events unforgettable [1]. Thus it is important to create visualizations providing a global overview of the experienced events, which helps users to

- *recall memories* – for those who were attending the events,
- *recognize memories* – for those who were not attending the events.

As times go by, recall is becoming recognition because users are forgetting their memories. This is the reason why recognition is also important for those who were attending the events.

Our visualization method provides users with a global overview of photo albums, shows them what and when happened, what were the most important events, reproduces storytelling etc. For this purpose we have proposed the *Chart of Interests* as an abstract of a photo album (see Figure 1). *The Chart of Interests* is a waveform placed in a chart where the x-axis denotes time and the y-axis denotes the level of interest of events in the specific point in time.

The method is based on the idea that the more pictures a user takes the more interesting an event was. The interest function in a given time is computed as the density of taking pictures during a time period. This is naturally true because when

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there is no interesting event happening, people take no or only few pictures in a long period of time. On the other hand, when there is a really interesting event there is often a need to document every second of the event.

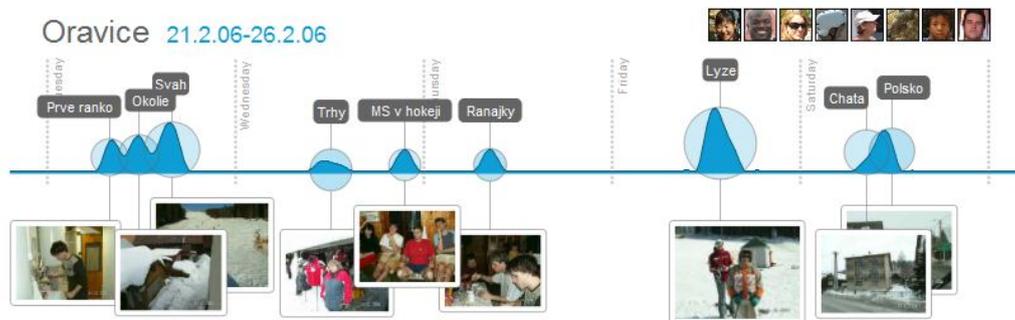


Figure 1. The Chart of Interests as an abstraction of a photo album.

The *Chart of Interests* is a graphical overview of a photo album where users can see a photo album in context. This visualization method utilizes the following features:

- *identification of events across a photo album*
- *chronological order of events*
- *identification of most important events of time periods in a photo album*
- *photo album placement in a time context*
- *storytelling*
- *navigation element which can be used supplement single photo browsing, photo album on a map presentation, events commenting etc.*
- *identification of participants of events*

The main goal of our work is to supply innovative navigation and browsing in photo albums which supports recall mostly via storytelling and also recognition of digitally saved experience. This style of browsing photos can be used by users for sharing photos more efficiently, for finding photos which they miss in their photo collections, to view places where they intend to go in various time periods etc. It is also usable in commercial sphere - in travel agencies or botanic monitoring.

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References

- [1] Chen, J. and Hibino, S. Reminiscing. View: Event-Based Browsing of Consumer's Photo and Video-Clip Collections. In: *Proc. of the 10th IEEE Int. Symp. on Multimedia*, ISM. IEEE Comp. Soc., Washington, DC, pp.23-30, 2008.