

# Metadata Collection for Effective Organization of Personal Multimedia Repositories using Games With a Purpose

Balázs NAGY\*

*Slovak University of Technology in Bratislava  
Faculty of Informatics and Information Technologies  
Ilkovičova 3, 842 16 Bratislava, Slovakia  
chelseadrukker@gmail.com*

Nowadays, an average person is overloaded with enormous amount of digital data. Besides multimedia (music, videos, images) we can mention also emails, web pages and information on social networks, blended together in a hypertext environment. For implementation of effective search and navigation in this space it is necessary to have enough *descriptive metadata* available for each resource. These can be collected automatically or manually through *crowdsourcing* [1] methods and in particular, by *games with a purpose* [2, 3].

Games With A Purpose (GWAP) refer to games that are not ordinary, but which address specific problems. The primary objective of these games is to solve problems that are unsolvable by computers. The usefulness of these games lies in the elimination of unnecessary costs for manual human labor by using voluntarily playing users.

In our research, we focus primary on image metadata acquisition. Our goal is to upgrade and extend an existing GWAP called *PexAce*, which collects useful annotations for photos and transforms them to tags. Due to lack of metadata for personal photo albums [4, 5] we want to focus on obtaining descriptive metadata for this kind of media. Using them we will be able to *query, order and filter* these enriched photo albums much better.

We want to allow users to import their photos either from online or from local storage. They will be able to create, update and remove albums, but also browse photos according to different filters in particular with the metadata obtained via our game.

Although with our original game we have achieved remarkable results, but we would like to obtain better metadata analyzing and processing of the various logs recorded during the games. All tags will receive reliability weight on the basis of information derived from logs. We also want to assess credibility of each user examining tags obtained by them.

---

\* Supervisor: Jakub Šimko, Institute of Informatics and Software Engineering

76 B. Nagy: Metadata Collection for Effective Organization of Personal Multimedia Repositories using Games With a Purpose

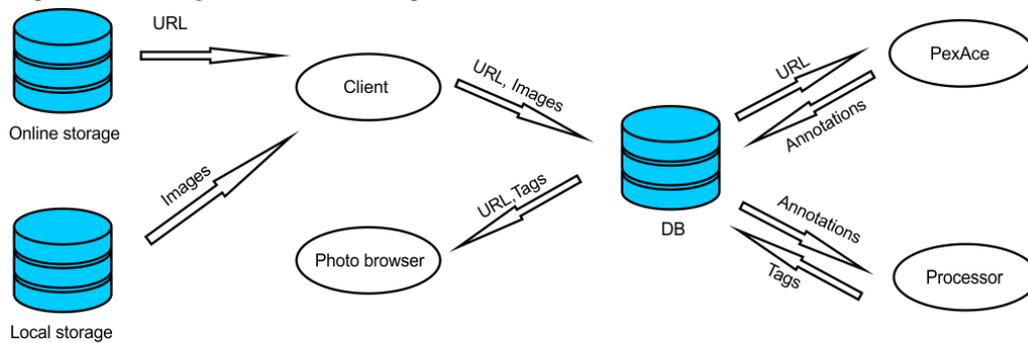


Figure 1. Components of the project with data flow between components.

Our previous experiments with the PexAce within general domain indicate that this method of obtaining metadata is effective. According to our expectations, we should get positive results also after using our method in specific area such as personal photo albums. In fact, user may be more motivated because they are annotating their own photos. Another side effect of this should be reflected also in the quality of obtained tags.

*Acknowledgement.* This work was partially supported by the Scientific Grant Agency of Slovak Republic, grant No. VG1/0675/11.

## References

- [1] Roman, D.: Crowdsourcing and the question of expertise. *Communications of the ACM*, 52(12), 2009.
- [2] von Ahn, L., Dabbish, L.: Designing Games With Purpose. *Communications of the ACM*. pp. 58-67, 2008.
- [3] Šimko, J., Tvarožek, M., Bieliková, M.: Little Google Game: Creation of Term Network via Search Game. In *Proc. of Datakon 2010*, 2010 (in Slovak).
- [4] Vainio, T., et al.: User needs for metadata management in mobile multimedia content services. *Proceedings of the 6th International Conference on Mobile Technology, Application & Systems* (p. 51), 2009.
- [5] Cunningham, S. J.: Identifying Personal Photo Digital Library Features. *Managing*, 400-401, 2007.