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Interlinking Multimedia Data

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Abstract: "Catch Me If You Can" (CaMiCatzee) is a multimedia data interlinking concept demonstrator. The goal is to show how images from flickr can be interlinked with other data, such as person-related (FOAF) data, locations, and related topics. We report on CaMiCatzee's architecture and introduce a first version of the demonstrator, available at `http://sw.joanneum.at/CaMiCatzee/`.
Key Words: linked data, multimedia, user contributed interlinking, FOAF, flickr
Category: H.5.1

1 Motivation

The popularity of social media sites (such as flickr) has led to an overwhelming amount of user contributed multimedia content. Although features for tagging and commenting are available, the outcome is mainly shallow metadata. On the other hand, current linked data sets[1] basically address textual resources. Further, the interlinking is usually done automatically, based on string matching algorithms. However, multimedia resources have been neglected so far[2]. When referring to multimedia resources interlinking, we do not talk about global metadata such as the creator or a title; we rather focus on a fine-grained interlinking, for example, objects in a picture. We envision to extend the User Contributed Interlinking (UCI) [Hausenblas et al. 08a, Hausenblas et al. 08b, Halb et al. 08] to multimedia assets. Clearly, the advantage is having high-quality semantic links from a multimedia asset to other data, hence allowing to connect to the linked datasets.

2 CaMiCatzee

In flickr it is possible to annotate parts of a picture using so called "notes". As the primary domain, we chose people depictions. Typically, flickr notes contain a string stating, e.g., "person X is depicted in this picture". However, there is no straight-forward way to relate this information with other data, such as FOAF data, locations, and contextual information (conference, holiday, etc.). This is where we step in: we apply the UCI principle by harnessing the fine-grained annotation capabilities of flickr in order to let people semantically annotate pictures.

[1] `http://richard.cyganiak.de/2007/10/lod/`
[2] `http://community.linkeddata.org/MediaWiki/index.php?InterlinkingMultimedia`

In the initial release of the multimedia interlinking demonstrator "Catch Me If You Can" (CaMiCatzee) the query for depictions can be performed using a person's FOAF document, a person's URI or simply a name (note that in the latter two cases a semantic indexer[3] is used to propose matching FOAF documents). Subsequently flickr is queried for matching annotations (on the person URI extracted from the FOAF document) yielding all pictures containing the desired person. Additionally, in the "full report", the flickr tags of a picture are evaluated and used as a base for introducing `rdfs:seeAlso` links; this overview is offered in XHTML+RDFa[4], allowing consumption by both humans and machines. Fig. 1 depicts the system's architecture, showing the CaMiCatzee server as well as the client.

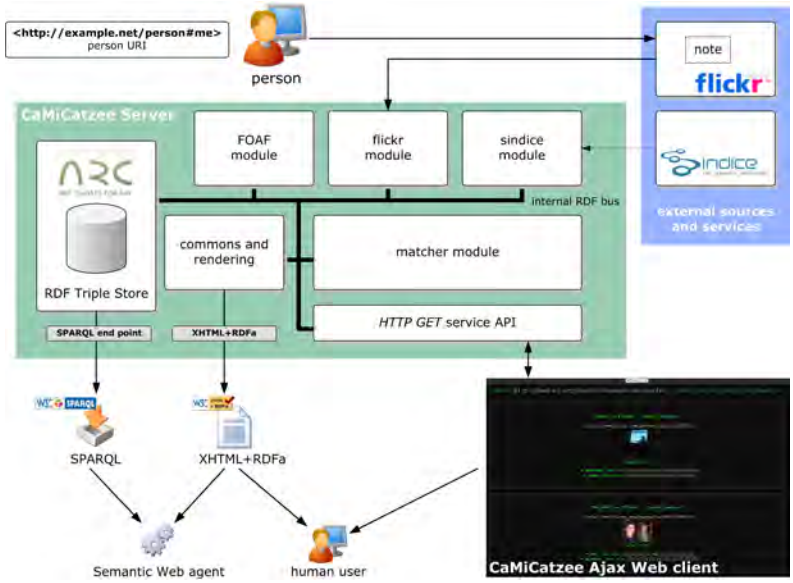

Figure 1: CaMiCatzee's architecture.

References

[Halb et al. 08] W. Halb, Y. Raimond, and M. Hausenblas. Building Linked Data For Both Humans and Machines. In *WWW 2008 Workshop: Linked Data on the Web (LDOW2008)*, Beijing, China, 2008.

[Hausenblas et al. 08a] M. Hausenblas and W. Halb. Interlinking of Resources with Semantics (Poster). *5th European Semantic Web Conference (ESWC2008)*, Tenerife, Spain, 2008.

[Hausenblas et al. 08b] M. Hausenblas, W. Halb, and Y. Raimond. Scripting User Contributed Interlinking. In *4th Workshop on Scripting for the Semantic Web (SFSW08)*, Tenerife, Spain, 2008.

[3] `http://sindice.com`
[4] `http://www.w3.org/TR/xhtml-rdfa-primer/`