A Reference Implementation of the *API for Media Resources*[*]

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1 Introduction

Today many media sharing applications such as Flickr or YouTube exist on the Web that use diverse metadata formats to describe media resources. This leads to interoperability issues [1] in search, retrieval and annotation.

To address this problem, the W3C launched the *Media Annotation Working Group* [2], which aims to improve interoperability between multimedia metadata formats on the Web by providing an interlingua ontology and an API designed to facilitate cross-community data integration of information related to media resources on the Web. To do so, syntactic as well as semantic mappings between the so-called media ontology defined by the group and a large number of metadata formats have been identified in the group report *Ontology for Media Resources 1.0*.

2 Implementation of the *API for Media Resources*

This paper introduces a reference implementation[4] of the *API for Media Resources*, implemented as a Web service. The Web service is illustrated on the left hand side of Figure 1, highlighting its essential parts: the API defines interfaces which are exposed by the Web service and serve as an entry point for incoming requests (e.g., select a media resource). These could be sent by a non-UI agent (e.g., metadata crawler) or a user agent. Incoming messages rely on the media ontology and are translated into the underlying metadata formats by the use of the associated mapping rules. After the mapping, specific APIs as well as extractors perform the actual access to the data sources.

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[4] Demonstration online available at `http://mawg.joanneum.at/`.

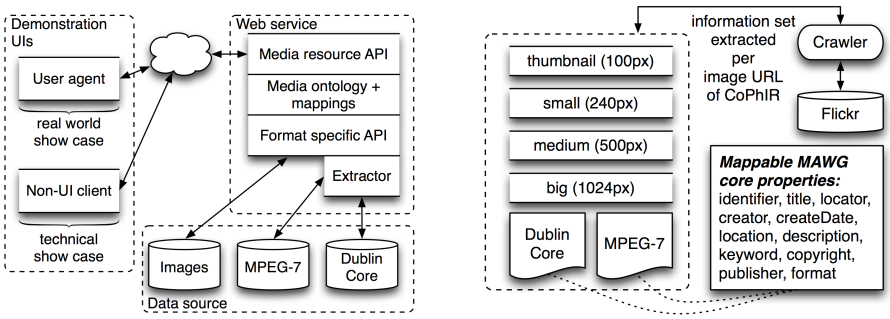

Fig. 1. Left: demonstration setup; right: data source, crawled using Flickr API and CoPhIR [3] as image URL archive.

3 Demonstration Procedure

This demonstration shows how interoperability issues between metadata formats can be resolved by the use of the *API for Media Resources* (c.f. Figure 1 for the setup of the demonstration). The data used in the demonstration has been extracted from Flickr and consists of images annotated with MPEG-7 as well as Dublin Core. The right hand side of Figure 1 shows the configuration of the extracted data source. The demonstration illustrates the essential steps of the internal workflow: select a media resource, get available metadata formats, get (mapped) properties or show a diagnosis message at any time. In addition, the demonstration illustrates a real world image gallery use case. Here, the actual workflow (e.g., selection or metadata mapping) is hidden and only images and metadata information are presented to the user.

4 Conclusion & Future Work

This paper presents a demonstration of a first implementation of the *API for Media Resources*, using an image gallery application as a use case. It demonstrates the basic functionality of the API implemented as a Web service. In order to include additional metadata formats and mapping approaches as specified in the *Ontology for Media Resource 1.0* report of the group (cf. [2]), this work is continued as an Open Source project[5].

References

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