Re-using Media on the Web

Lyndon Nixon
MODUL University
Vienna, Austria
lyndon.nixon@modul.ac.at

Vasileios Mezaris
CERTH/ITI
Thessaloniki, Greece
bmezaris@iti.gr

Raphaël Troncy
EURECOM
Sophia Antipolis, France
raphael.troncy@eurecom.fr

Categories and Subject Descriptors

H.3 [**Information Storage and Retrieval**]: Content Analysis and Indexing

Keywords

Media analysis; media annotation; semantic description; media re-mixing

1. INTRODUCTION

This tutorial will address the state of the art in the area of online media analysis, annotation and linking, reflecting that a number of Web-based specifications and technologies are now emerging. When combined, they provide the technical solution for media owners to manage and to re-use their online media at a fragment level. These specifications and technologies form a full online media workflow that supports media fragmentation and re-use, which opens means to derive new value from media to media owners, and new models for media acquisition and use for media consumers. Hence, the awareness of and the ability to use these specifications and technologies will be of great importance to future curators and publishers of online media.

2. TUTORIAL TOPICS AND GOALS

The main topics of the tutorial are: Online video, audio and textual media analysis; Media annotation and semantic description; Multimedia search and retrieval; HTML5-based media fragment playout. This tutorial will approach these topics, which often address media resources as atomic objects, from the viewpoint of media fragment re-use and re-mixing in different domains, and introduce ideas of novel applications of media fragment re-use and re-mixing based on such technologies. Hence we consider the subject of great importance to the online multimedia community to highlight the state of the art in addressing media at the fragment level and the new possibilities media fragment technology can introduce for media owners and consumers. The covered Web-based specifications and technologies are still very much at an "early adoption" stage, even within the research community let alone the commercial industry, so it is important to communicate their existence, explain their use and point to existing tools and services handling them. This is part of the goal of the MediaMixer[1] project which supports this tutorial. We believe that by training Web media researchers in these specifications and technologies, they can better promote and apply their use within their own research and therefore contribute to make analysis results more interoperable. Since many will move on to enter industry, we can also help bring awareness of these technologies into the online media industry.

3. STRUCTURE OF THE TUTORIAL

The first part deals with the problems of media fragment analysis and creation. We will describe approaches to visual, audio and textual media analysis, so as to automatically generate meaningful media fragments out of a media resource. We will further demonstrate the latest results in the areas of video fragmentation, visual concept and event detection, face detection, object re-detection, and on the use of speech recognition and keyword extraction from text for supporting multimedia analysis.

The second part deals with media fragment specification and semantics. Here we will introduce the W3C Media Fragment URI[2] specification. We will highlight how media fragments can be incorporated into known media description schema, with a focus on the W3C Ontology for Media Resources and the Open Annotation Model[3]. We will also discuss extensions to these ontologies that aim to more richly link media fragments to the concepts they represent.

The final part deals with media fragment re-mixing and playout. A number of novel application ideas will be introduced based on the media fragment creation, specification and rights management technologies. One example direction of such applications is semantic search and retrieval, which allows to organize sets of fragments by topical or conceptual relevance. These fragment sets can then be played out in a non-linear fashion to create a new media re-mix.

Acknowledgments

This work was supported by the EC under contract FP7-318101 MediaMixer.

[1] http://www.mediamixer.eu/tutorial/
[2] http://www.w3.org/TR/media-frags/
[3] http://www.openannotation.org/spec/core/

WWW'14 Companion, April 7–11, 2014, Seoul, Korea.
ACM 978-1-4503-2745-9/14/04.
http://dx.doi.org/10.1145/2567948.2577266 .