
Metadata model

Overview

TOSCA-MP has developed a metadata model for audiovisual media production and archiving processes, based on the MPEG-7 Audiovisual Description Profile (AVDP), to which several partners have contributed in the standardisation phase. Guidelines, tools and examples are available.

In depth description

The intention of MPEG-7 AudioVisual Description Profile (AVDP) is to facilitate the introduction of automatic information extraction tools in media production, e.g. as web services in Service Oriented Architectures (SOA), by providing a common format for the exchange of the metadata they generate. AVDP is a profile (i.e., subset) of the MPEG-7 Multimedia Description Interface standard, targeting applications in media production and archiving, and includes all tools provided by Part 3 and Part 4 of MPEG-7.

As a result of an extended requirements analysis mainly conducted inside EBU (European Broadcasting Union), the description tools in this profile can be used to describe the results of various kinds of media analysis such as shot/scene detection, face recognition/tracking, speech recognition, copy detection and summarization, etc. in a way that these data can be usefully integrated in media production processes. The AVDP profile supports temporal and spatial analysis of audiovisual material, including low-level audio and video descriptions. The profile defines a set of semantic constraints in order to facilitate interoperability.

The main scope of AVDP is describing the results of automatic media analysis with low-, mid- and high-level features for audiovisual content. Thus, the profile includes functionalities for representing results of several – (semi-) automatic or manual – feature extraction processes.

AVDP provides tools for describing:

- feature extraction tool, version, contributors, and the date/time the tool applied
- several results in multiple timelines
- several results with confidence level
- various results of multimedia analysis, such as segmentation, text recognition, face detection, person identification, format detection, genre detection, keyword extraction, and speech recognition.
- results of multimedia analysis having several related descriptions of audiovisual contents, such as copy detection and summarization

Potential fields of Application

Exchange of time-based metadata from (semi-)automatic content analysis of audiovisual media.

Possibilities for exploitation

The core of the data model, the MPEG-7 Audiovisual Description Profile (AVDP), has been standardised by MPEG. Related tools are collected in the EBU MIM/MDN knowledge base at <http://workspace.ebu.ch/display/ecmmdn/Knowledge+base+-+contributions>

A guidelines document on the use of MPEG-7 AVDP with many examples is currently finalised and will be published by EBU MIM/SCAIE.

Further Information

Mike Matton, Werner Bailer, Masanori Sano, Alberto Messina, Jean-Pierre Évain and Peter Schallauer, "The MPEG-7 Audiovisual Description Profile Standard for Describing Results of Automatic Annotation Services," in Proceedings of the FIAT/IFTA Conference, Dubai, Oct. 2013. http://innovation.vrt.be/sites/innovatie.vrt.be/files/generated/files/blogs/flat-ifta_2013_avdp_full-paper.pdf

White paper on AVDP:

[http://mpeg.chiariglione.org/sites/default/files/files/standards/docs/w13869%20 AVDP WhitePaper final.docx](http://mpeg.chiariglione.org/sites/default/files/files/standards/docs/w13869%20AVDP%20WhitePaper%20final.docx)

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