AES standard for audio metadata - Audio object structures for preservation and restoration

Published by
Audio Engineering Society, Inc.
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Abstract

This standard provides a vocabulary to be used in describing structural and administrative metadata for digital and analog audio formats for the purpose of enabling audio preservation activities on those objects. Some implementations also refer to this metadata as technical metadata. The characteristics of the audio objects captured by this standard may be of use to audio communities beyond the audio preservation community.

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2011-09-21 printing

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Foreword

This foreword is not part of the AES57-2011 *AES standard for audio metadata - Audio object structures for preservation and restoration*.

Work on this project began in earnest in 2002 following a series of meetings that the chair attended at the Library of Congress in which the subject of technical metadata requirements for audio were discussed. Over the intervening years the document has undergone multiple rewrites culminating in a close draft which appeared sometime around 2007. That document since has undergone a small number of revisions that principally refine element sets that can be applied to specific media types.

At the time of public approval, the membership of the task group was D. Ackerman, P. Alyea, G. Blood, P. Cabe, M. Casey, C. Chambers, B. Gordon, B. Hoffa, C. Lacinak, B. McCoy, M. Miller, J. Narus, D. Nolan, D. Sbardella, M. Sueiro, P. Treleaven, and T. Vaervagen.

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Note on normative language

In AES standards documents, sentences containing the word “shall” are requirements for compliance with the document. Sentences containing the verb “should” are strong suggestions (recommendations). Sentences giving permission use the verb “may”. Sentences expressing a possibility use the verb “can”.

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AES standard for audio metadata - Audio object structures for preservation and restoration

Introduction

This standard sets out the vocabulary to be used in describing digital and analog audio formats, including both those formats that exist in some tangible form such as a reel of tape and those that exist only as a set of bits, untied to a single audio carrier, such as a broadcast wave file. This vocabulary takes the form of an Extensible Markup Language (XML) schema. By doing so it provides a structured human readable instance document that can be easily parsed and manipulated using any of a number of freely available programming libraries and tools. The schema is designed for flexibility, providing a number of data elements that are optional. This is necessary since often there will be certain information that cannot be known, particularly in archive settings where technicians are asked to preserve materials that have little or no accompanying documentation. As a result the base set of required elements does not necessarily represent the minimal description necessary for preservation, but rather is the set of elements that is expected to be known or determinable at a minimum.

0 Preamble

0.1 Documentation conventions

0.1.1 Decimal points

According to IEC directives, the comma is used in all text to indicate the decimal point. However, in the specified coding, including the examples shown, the full stop is used as in IEC programming language standards.

0.1.2 Data representation

In this standard, all coding and data representations are printed in an equally spaced font. For example, "**`dimensions`**". Inherited elements and attributes are printed in an italicized equally spaced font.

0.1.3 Case sensitivity

All element, attribute, data type and constant names shall be case sensitive.

0.2 Logical conventions and data types

In this standard, all elements, attributes and custom data types are defined in the lower-camel-case coding convention. For example, "**`lowerCamelCase`**".

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This standard is implemented as an Extensible markup language (XML) schema according to the W3C XML schema recommendation. The full listing in schema format is provided in this document's appendices.

This standard relies on a number of data types that are defined by the W3C. See clause 2 *Normative references*. The following W3C data types are used:

```
dateTime
ID
IDREF
IDREFS
integer
long
nonNegativeInteger
positiveInteger
string
```

Additionally, this standard defines a number of custom data types according to the rules of the W3C's XML schema recommendation. These types are defined throughout the text as they are encountered in the element and attribute definition listings.

1 Scope

This standard concerns the technical documentation of audio files and physical audio formats for long-term archival storage and preservation. This documentation, referred to as metadata from here on, provides both a physical description of the media, as well as a general vocabulary for describing the audio characteristics or sound essence of the format. This standard also provides a minimal amount of descriptive metadata to aid in relating the instance document back to the described audio object.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this document. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this document are encouraged to investigate the possibility of applying the most recent editions of the indicated standards.

AES31-3-1999, *AES standard for network and file transfer of audio — Audio-file transfer and exchange — Part 3: Simple project interchange*. Audio Enginering Society, New York, NY., US.

W3C XML Schema Part 1: **Structures** *Second Edition, W3C Recommendation 28 October 2004*. www.w3.org

W3C XML Schema Part 2: **Datatypes** *Second Edition, W3C Recommendation 28 October 2004*. www.w3.org

W3C XML Linking Language (XLink) Version 1.1, *W3C Recommendation 06 May 2010*. www.w3.org

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