Metadata for Audiovisual Materials and its Role in Digital Projects

Jenn Riley
Metadata Librarian
Indiana University Digital Library Program

General descriptive metadata standards

MARC
http://www.loc.gov/marc/bibliographic/ecbdhome.html

MARCXML
http://www.loc.gov/standards/marcxml/

Metadata Object Description Schema (MODS)
http://www.loc.gov/mods

Simple Dublin Core (DC)
http://dublincore.org/documents/dces/

Qualified Dublin Core (QDC)
http://dublincore.org/documents/dcmi-terms/

Still image descriptive metadata standards

Visual Resources Association Core Categories (VRA Core) 4.0
http://www.vraweb.org/projects/vracore4/

Categories for the Description of Works of Art (CDWA) Lite
http://www.getty.edu/research/conducting_research/standards/cdwa/cdwalite.html

Music descriptive metadata standards

Variations2 at Indiana University
http://variations2.indiana.edu/metadata.html

Probado at Bavarian State Library
http://ismir2007.ismir.net/proceedings/ISMIR2007_p501_diet.pdf

Music Ontology Specification
http://musicontology.com/

ID3 tags for MP3 files
http://www.id3.org/

Other "media" metadata standards

MPEG-7
http://www.chiariglione.org/mpeg/standards/mpeg-7/mpeg-7.htm

Public Broadcasting Core (PB Core)
http://www.pbcore.org/

Technical and administrative metadata for A/V materials

Metadata for Images in XML (MIX)
http://www.loc.gov/standards/mix/

Audio Engineering Society Core Audio Metadata (AES-X098-B), in development by AES SC-03-06
Working Group

Library of Congress Audio-Visual Prototyping Project Audio (Source) Data Dictionary
http://www.loc.gov/rr/mopic/avprot/DD_ASMD.html

Library of Congress Audio-Visual Prototyping Project VideoMD Data Dictionary
http://www.loc.gov/rr/mopic/avprot/DD_VMD.html

Audio Engineering Society Process History Metadata (AES-X098-C), in development by AES SC-03-06
Working Group

Structural metadata

Metadata Encoding and Transmission Standard (METS)
http://www.loc.gov/mets

SMPTE Material eXchange Format (MXF)
http://www.smpte-mxf.org/

Synchronized Multimedia Integration Language (SMIL)
http://www.w3.org/TR/REC-smil/

AES31-3-1999: AES standard for network and file transfer of audio -- Audio-file transfer and exchange --
Part 3: Simple project interchange
http://www.aes.org/publications/standards/

Music markup languages

MusicXML
http://www.recordare.com/xml.html

Music Encoding Initiative (MEI)
http://www.lib.virginia.edu/digital/resndev/mei/

MARC

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=024 1\$a028945769127
=028 02$a457 691-2$bDeutsche Grammophon
=040 \\$aWIM$cWIM$dDLC
=041 0\$dengfreita$genggerfre
=042 \\$alcderive
=050 00$aDeutsche Grammophon 457 691-2
=100 1\$aBernstein, Leonard,$d1918-
=245 14$aThe artist's album$h[sound recording] /$cLeonard Bernstein.
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=500 \\$aCompact disc.
=500 \\$aIn album with notes (47 p. : ill. ; 13 x 15 cm.).
=511 0\$aVarious performers.
=518 \\$aRecorded at various locations between 1972 and 1990.
=500 \\$aProgram notes by Humphrey Burton in English, German, and French in album.
=505 00$tCarmen. Prelude$g(4:21) ;$tHabanera$g(4:52) /$rBizet (Marilyn Horne, Manhattan Opera Chorus, Metropolitan Opera Orchestra) --$tSerenade. Aristophanes /$rBernstein (Gidon Kremer, Israel Philharmonic Orchestra)$g(4:11) --$tSymphony no. 3. Vivace (3rd movement) /$rRoussel (Orchestre National de France)$g(3:10) --$tEnigma variations. Nimrod /$rElgar (BBC Symphony Orchestra)$g(6:08) --$tWest side story. America /$rBernstein (Tatiana Troyanos, Louise Edeiken, orchestra and chorus)$g(4:49) --$tSymphony no. 94 "Surprise". Andante (2nd movement) /$rHaydn (Wiener Philharmoniker)$g(6:33) --$t"New world" symphony. Molto vivace (3rd movement) /$rDvor{grave}k (Israel Philharmonic Orchestra)$g(7:06) --$tLa Boh{uml}me. "O Mimi, tu pi{breveb} non torni" (duet) /$rPuccini (Jerry Hadley, Thomas Hampson, Orchestra dell{scriptl}ccademia Nazionale di Santa Cecilia)$g(3:19) --$tSymphony no. 4. 4th movement ("Wir geniessen die himmlischen Freuden") /$rMahler (Helmut Wittek, Concertgebouw Orchestra)$g(9:03) --$tCandide. "I am easily assimilated" /$rBernstein (Christa Ludwig, London Symphony Orchestra and Chorus)$g(4:13) --$tSymphony no. 7. Allegro con brio (4th movement) /$rBeethoven (Boston Symphony Orchestra)$g(8:40) --$tDivertimento.$tWaltz$g(2:22) ;$tTurkey trot$g(1:52) ;$tBlues$g(1:40) ;$tMarch, the BSO forever$g(3:56) /$rBernstein (Wiener Philharmoniker).
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=650 \0$aSymphonies$vExcerpts.
=650 \0$aOperas$vExcerpts.
=650 \0$aMusicals$vExcerpts.
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=700 12$aBizet, Georges,$d1838-1875.$tCarmen.$pPr{caron}lude.
=700 12$aBernstein, Leonard,$d1918-$tSymposium, after Plato.$pAristophanes.
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=700 12$aBernstein, Leonard,$d1918-$tWest Side story.$pAmerica.
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=700 12$aMahler, Gustav,$d1860-1911.$tSymphonies,$nno. 4,$rG major.$pSehr behaglich.
=700 12$aBernstein, Leonard,$d1918-$tCandide$pI am easily assimilated.
=700 12$aBeethoven, Ludwig van,$d1770-1827.$tSymphonies,$nno. 7, op. 92,$rA major.
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MARCXML

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Metadata Object Description Schema (MODS)

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        <namePart type="date">1918-</namePart>
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            <text>creator</text>
        </role>
    </name>
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            <code authority="marc">gw</code>
            <text>Hamburg, Germany</text>
        </place>
        <publisher>Deutsches Grammophon</publisher>
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    </physicalDescription>
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    </subject>
    <subject authority="lcsh">
        <topic>Symphonies</topic>
        <topic>Excerpts</topic>
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        <topic>Excerpts</topic>
    </subject>
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    </subject>
    <classification authority="lcc">Deutsche Grammophon 457 691-2</classification>
    <relatedItem type="constituent">
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            <partName>Habanera. </partName>
        </titleInfo>
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            <namePart>Bizet, Georges,</namePart>
            <namePart type="date">1838-1875</namePart>
        </name>
    </relatedItem>
    (snip)
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Simple Dublin Core (DC)

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    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xmlns:dc="http://purl.org/dc/elements/1.1/">
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Qualified Dublin Core (QDC)

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        Manhattan Opera Chorus, Metropolitan Opera Orchestra) -- Serenade. Aristophanes / Bernstein
        (Gidon Kremer, Israel Philharmonic Orchestra) (4:11) -- Symphony no. 3. Vivace (3rd
        movement) / Roussel (Orchestre National de France) (3:10) -- Enigma variations. Nimrod /
        Elgar (BBC Symphony Orchestra) (6:08) -- West side story. America / Bernstein (Tatiana
        Troyanos, Louise Edeiken, orchestra and chorus) (4:49) -- Symphony no. 94 "Surprise".
        Andante (2nd movement) / Haydn (Wiener Philharmoniker) (6:33) -- "New world" symphony. Molto
        vivace (3rd movement) / Dvork (Israel Philharmonic Orchestra) (7:06) -- La Bohm̈e. "O Mimi,
        tu pi ̦non torni" (duet) / Puccini (Jerry Hadley, Thomas Hampson, Orchestra dellℓccademia
        Nazionale di Santa Cecilia) (3:19) -- Symphony no. 4. 4th movement ("Wir geniessen die
        himmlischen Freuden") / Mahler (Helmut Wittek, Concertgebouw Orchestra) (9:03) -- Candide.
        "I am easily assimilated" / Bernstein (Christa Ludwig, London Symphony Orchestra and Chorus)
        (4:13) -- Symphony no. 7. Allegro con brio (4th movement) / Beethoven (Boston Symphony
        Orchestra) (8:40) -- Divertimento. Waltz (2:22) ; Turkey trot (1:52) ; Blues (1:40) ; March,
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Visual Resources Association Core Categories (VRA Core) 4.0

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    <latestDate>0079</latestDate>
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   <description
    source="Grove Dictionary of Art Online. www.groveart.com (accessed 5 August 2005)">House on
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    diaetae (summer-houses). Peristyle was replaced by a cryptoporticus</description>
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   <notes>Scholar, photographer, and historical consultant on the J. Paul Getty Museum in Malibu,
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   </agent>
  </agentSet>
  <locationSet>
   <display>History of Art Visual Resources Collection, UCB, 528261</display>
   <location type="repository">
    <name type="corporate">History of Art Visual Resources Collection</name>
    <name type="geographic" vocab="TGN" refid="7013386">Berkeley</name>
    <name type="other">University of California</name>
    <refid type="accession">528261</refid>
   </location>
  </locationSet>
  <measurementsSet>
   <display>435 KB (1215 x 1812)</display>
   <measurements type="height" unit="pixel" extent="">1215</measurements>
   <measurements type="width" unit="pixel" extent="">1812</measurements>
   <measurements type="fileSize" unit="kilobyte">435</measurements>
  </measurementsSet>
  <relationSet>
   <relation type="imageOf" relids="w_00000006">House of the Stags</relation>
  </relationSet>
  <rightsSet>
   <display>&#xA9; History of Art Department, University of California at Berkeley</display>
   <rights>
    <rightsHolder>History of Art Department, University of California at Berkeley, 416 Doe
      Library, Berkeley, CA 94720-6020</rightsHolder>
    <text>All rights reserved</text>
   </rights>
  </rightsSet>
  <sourceSet>
   <display>Norman Neuerburg Archive 4.12.6</display>
   <notes>Research slides from the Norman Neuerburg estate</notes>
   <source>
    <name type="other">Norman Neuerburg Archive</name>
    <refid>4.12.6</refid>
   </source>
  </sourceSet>
  <subjectSet>
   <display>mosaics; portals; gods of the waters: older dynasty (second series): children of
     Oceanus, river, small water deities</display>
   <subject>
    <term type="descriptiveTopic" vocab="AAT" refid="300015342">mosaics</term>
    <term type="descriptiveTopic" vocab="AAT" refid="300076641">portals</term>
    <term type="descriptiveTopic" vocab="ICONCLASS" refid="92K">gods of the waters: older
      dynasty (second series): children of Oceanus, river, small water deities</term>
   </subject>
  </subjectSet>
  <titleSet>
   <display>Detail view of the restored garden facade portal, with mosaics of amorini and Nereids
     on the lintel and head of "Ocean" on the pediment</display>
   <title type="partialView" pref="true">Detail view of the restored garden facade portal, with
     mosaics of amorini and Nereids on the lintel and head of "Ocean" on the pediment</title>
  </titleSet>
</image>
</vra>
```

Categories for the Description of Works of Art (CDWA) Lite

```
<cdwalite:descriptiveMetadata>
    <cdwalite:objectWorkTypeWrap>
        <cdwalite:objectWorkType>Tapestries</cdwalite:objectWorkType>
    </cdwalite:objectWorkTypeWrap>
    <cdwalite:titleWrap>
        <cdwalite:titleSet>
            <cdwalite:title cdwalite:pref="Preferred">Council cushions</cdwalite:title>
        </cdwalite:titleSet>
    </cdwalite:titleWrap>
    <cdwalite:displayCreator>unknown</cdwalite:displayCreator>
    <cdwalite:indexingCreatorWrap>
        <cdwalite:indexingCreatorSet>
            <cdwalite:nameCreatorSet>
                <cdwalite:nameCreator>unknown</cdwalite:nameCreator>
            </cdwalite:nameCreatorSet>
            <cdwalite:roleCreator>unknown</cdwalite:roleCreator>
        </cdwalite:indexingCreatorSet>
    </cdwalite:indexingCreatorWrap>
    <cdwalite:displayMeasurements>H 21" x W 27"</cdwalite:displayMeasurements>
    <cdwalite:displayMaterialsTech>unknown</cdwalite:displayMaterialsTech>
    <cdwalite:cultureWrap>
        <cdwalite:culture>Dutch</cdwalite:culture>
    </cdwalite:cultureWrap>
    <cdwalite:displayCreationDate>dated 1739??</cdwalite:displayCreationDate>
    <cdwalite:indexingDatesWrap>
        <cdwalite:indexingDatesSet>
            <cdwalite:earliestDate>1739</cdwalite:earliestDate>
            <cdwalite:latestDate/>
        </cdwalite:indexingDatesSet>
    </cdwalite:indexingDatesWrap>
    <cdwalite:locationWrap>
        <cdwalite:locationSet>
            <cdwalite:locationName cdwalite:type="currentOwner">United States, Kentucky, Louisville, J. B. Speed Art Museum, accno.
            49.30.131</cdwalite:locationName>
        </cdwalite:locationSet>
        <cdwalite:locationSet>
            <cdwalite:locationName cdwalite:type="formerOwner">French &amp; Co. purchased from Mary Blair in 1923; sold to Dr.
Preston Pope Satterwhite 6/15/1936; bequeathed to J.B. Speed Art Museum in 6/1936.</cdwalite:locationName>
        </cdwalite:locationSet>
    </cdwalite:locationWrap>
    <cdwalite:indexingSubjectWrap>
        <cdwalite:indexingSubjectSet>
            <cdwalite:subjectTerm>Armorial: Cushions</cdwalite:subjectTerm>
        </cdwalite:indexingSubjectSet>
    </cdwalite:indexingSubjectWrap>
    <cdwalite:classWrap>
        <cdwalite:classification>Textiles - Tapestries</cdwalite:classification>
    </cdwalite:classWrap>
    <cdwalite:descriptiveNoteWrap>
        <cdwalite:descriptiveNoteSet>
            <cdwalite:descriptiveNote>Coat of arms with lion (city-arms of Overijssel), held by 2 lions</cdwalite:descriptiveNote>
        </cdwalite:descriptiveNoteSet>
        <cdwalite:descriptiveNoteSet>
            <cdwalite:descriptiveNote>Inscription for date difficult to read in photograph.</cdwalite:descriptiveNote>
        </cdwalite:descriptiveNoteSet>
        <cdwalite:descriptiveNoteSet>
            <cdwalite:descriptiveNote>French &amp; Co. stock sheet in archive, 11862 [also lists: 33511]</cdwalite:descriptiveNote>
        </cdwalite:descriptiveNoteSet>
        <cdwalite:descriptiveNoteSet>
            <cdwalite:descriptiveNote>Göbel, Tapestries Lowlands (1974), 22 (in appendix of marks)</cdwalite:descriptiveNote>
        </cdwalite:descriptiveNoteSet>
    </cdwalite:descriptiveNoteWrap>
    <cdwalite:inscriptionsWrap>
        <cdwalite:inscriptions>Inscription below shield: OVERYSSEI / 17[3][9]</cdwalite:inscriptions>
        <cdwalite:inscriptions/>
    </cdwalite:inscriptionsWrap>
</cdwalite:descriptiveMetadata>
```

Variations2 at Indiana University

```xml
<Work>
    <UniformTitle>
        <Title offset="0">Symphonies, no. 1, op. 68, C minor</Title>
    </UniformTitle>
    <VariantTitles>
        <VariantTitle offset="0">Symphony, no. 1, op. 68, C minor</VariantTitle>
    </VariantTitles>
    <CompositionDate>1862 to 1876</CompositionDate>
    <FirstPerformanceDate>1876-11-04</FirstPerformanceDate>
    <FirstPublicationDate>1877</FirstPublicationDate>
    <SubjectHeadings>
        <SubjectHeading>
            <Text>Symphonies</Text>
            <Source>LCSH</Source>
        </SubjectHeading>
    </SubjectHeadings>
    <Instrumentation>
        <QuantifiedInstrument>
            <Quantity>1</Quantity>
            <Instrument>orchestra</Instrument>
        </QuantifiedInstrument>
    </Instrumentation>
    <Key>
        <Letter>C</Letter>
        <Mode>Minor</Mode>
    </Key>
</Work>
<Instantiation>
    <Title offset="0">Symphonies, no. 1, op. 68, C minor</Title>
    <DocumentDescription>
        <Format>Full Score</Format>
    </DocumentDescription>
    <SubjectHeadings>
        <SubjectHeading>
            <Text>Symphonies -- Scores</Text>
            <Source>LCSH</Source>
        </SubjectHeading>
    </SubjectHeadings>
    <Instrumentation>
        <QuantifiedInstrument>
            <Quantity>1</Quantity>
            <Instrument>orchestra</Instrument>
        </QuantifiedInstrument>
    </Instrumentation>
    <Notation>Common practice notation</Notation>
</Instantiation>
<Container>
    <DisplayTitle offset="0">Symphonie I, c Moll = C minor = Do mineur, op. 68 </DisplayTitle>
    <Publisher>Universal Edition</Publisher>
    <PublisherNumbers>
        <PublisherNumber>Universal Edition:W.Ph.V. 130</PublisherNumber>
        <PublisherNumber>Universal Edition:130</PublisherNumber>
    </PublisherNumbers>
    <DocumentInfos>
        <DocumentInfo>
            <Type>Score</Type>
            <Format>Full Score</Format>
            <Description>1 miniature score (166 p.) : port. ; 18 cm</Description>
        </DocumentInfo>
    </DocumentInfos>
    <PublicationDate>[19--]</PublicationDate>
    <PublicationPlace>Wien</PublicationPlace>
    <PhysicalID>
        <Location>IU Music Library</Location>
        <CallNumber>M1001.B813 no. 1 U8</CallNumber>
    </PhysicalID>
</Container>
```

Music Ontology Specification

```xml
<mo:mo>
  <foaf:Person rdf:about="http://music.org/bach#bach">
    <foaf:name>Johann Sebastian Bach</foaf:name>
    <mo:wikipedia rdf:resource="http://en.wikipedia.org/wiki/Johann_Sebastian_Bach"/>
  </foaf:Person>
  <mo:Composition rdf:about="http://music.org/bach#kdfcomposition">
    <dc:title>The composition event, when Bach composed the art of the fugue</dc:title>
    <event:hasAgent rdf:resource="http://music.org/bach#bach"/>
    <event:time rdf:resource="http://music.org/bach#compti"/>
    <event:hasProduct rdf:resource="http://music.org/bach#kunstderfuge"/>
  </mo:Composition>
  <time:TimeInterval rdf:about="http://music.org/bach#compti">
    <time:intervalDuring
      rdf:resource="http://placetime.com/interval/gregorian/1742-01-01T00:00:00Z/P7Y6M"/>
    <timeline:onTimeLine rdf:resource="http://purl.org/NET/c4dm/timeline.owl#universaltimeline"/>
    <event:hasProduct rdf:resource="http://music.org/bach#kunstderfuge"/>
    <event:hasProduct rdf:resource="http://music.org/bach#kunstderfugescore"/>
  </time:TimeInterval>
  <mo:MusicalWork rdf:about="http://music.org/bach#kunstderfuge">
    <dc:title>Die Kunst der Fuge</dc:title>
  </mo:MusicalWork>
  <mo:Score rdf:about="http://music.org/bach#kunstderfugescore">
    <dc:title>Die Kunst der Fuge, composer's score</dc:title>
    <mo:publishedAs>
      <mo:PublishedScore rdf:about="http://music.org/bach#firstpub">
        <dc:title>Die Kunst der Fuge, published posthumously in 1751</dc:title>
        <dc:date>
          <time:TimeInterval rdf:about="http://music.org/bach#publicationti">
            <time:intervalDuring
              rdf:resource="http://placetime.com/interval/gregorian/1751-01-01T00:00:00Z/P1Y"/>
            <timeline:onTimeLine
              rdf:resource="http://purl.org/NET/c4dm/timeline.owl#universaltimeline"/>
          </time:TimeInterval>
        </dc:date>
      </mo:PublishedScore>
    </mo:publishedAs>
  </mo:Score>
</mo:mo>
```

ID3 tags for MP3 files

I Am The Walrus

| Summary | Info | Video | Sorting | Options | Lyrics | Artwork |

Name

I Am The Walrus

Artist

The Beatles

Year

1967

Album Artist

Track Number

8 of 14

Album

1967-1970 (Disc 1)

Disc Number

1 of 2

Grouping

BPM

Composer

John Lennon, Paul McCartney

Comments

Genre

Pop

☐ Part of a compilation

(Previous) (Next)   (Cancel) (OK)

MPEG-7

```xml
<?xml version="1.0" encoding="iso-8859-1"?>
<Mpeg7 xmlns="urn:mpeg:mpeg7:schema:2001" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns:mpeg7="urn:mpeg:mpeg7:schema:2001"
 xsi:schemaLocation="urn:mpeg:mpeg7:schema:2001 Mpeg7-2001.xsd">
<Description xsi:type="ContentEntityType">
 <MultimediaContent xsi:type="AudioType">
  <Audio xsi:type="AudioSegmentType">
   <AudioDescriptor xsi:type="AudioWaveformType" minRange="-0.168945" maxRange="0.216339">
    <SeriesOfScalar hopSize="PT10N1000F" totalNumOfSamples="586">
     <Min> -0.019562 -0.056335 -0.003143 -0.015625 -0.017517 -0.019348 -0.016846 -0.012634
       -0.011719 -0.015594 -0.023285 -0.017548 -0.016754 -0.010986 -0.015411 -0.013184 -0.025360
       -0.027313 -0.029877 -0.020447 -0.018066 -0.021973 -0.031586 -0.012115 -0.014252 -0.024048
       -0.020386 -0.020294 -0.030792 -0.019165 -0.026642 -0.036804 -0.031372 -0.031128 -0.034332
       (snip)
       -0.023560 -0.000061 -0.000031 -0.000031 0.000000 0.000000 0.000000 0.000000 0.000000 0.000000
       0.000000</Min>
     <Max> 0.007568 0.006195 0.000488 0.000336 0.011292 0.018433 0.014862 0.010406 0.021667
       0.022644 0.015411 0.026703 0.018738 0.018860 0.016113 0.023010 0.019501 0.017883 0.017609
       0.020020 0.015625 0.020569 0.023285 0.018890 0.015778 0.026947 0.018646 0.015869 0.017365
       0.026550 0.015564 0.033173 0.029236 0.027008 0.023376 0.039185 0.016632 0.017548 0.027893
       (snip)
       0.031616 0.018494 0.026031 0.011475 0.012756 0.020386 0.022095 0.000092 0.000031 0.000031
       0.000000 0.000000 0.000000 0.000000 0.000000 0.000000 0.000000</Max>
    </SeriesOfScalar>
   </AudioDescriptor>

   <AudioDescriptor xsi:type="LogAttackTimeType">
    <Scalar> 0.370082</Scalar>
   </AudioDescriptor>

   <AudioDescriptor xsi:type="TemporalCentroidType">
    <Scalar> 2.878447</Scalar>
   </AudioDescriptor>

   <AudioDescriptor xsi:type="SpectralCentroidType">
    <Scalar> 362.219025</Scalar>
   </AudioDescriptor>

   <AudioDescriptor xsi:type="HarmonicSpectralCentroidType">
    <SeriesOfScalar hopSize="PT10N1000F" totalNumOfSamples="577">
     <Raw> 903.342041 763.697144 576.047913 1540.914063 286.425262 785.164368 406.611084 344.813538
       312.847107 299.398987 264.952698 235.545898 238.230225 499.734283 294.265228 298.977692
       313.698181 606.200256 649.676208 254.622192 726.318115 860.877991 660.551208 208.908798
       930.446533 1296.000610 1516.120850 1950.204590 2005.471191 2059.559814 2275.353027 850.472534
       (snip)
       230.648102 580.115051 296.252136 264.306366 317.379761 351.761322 293.476318 463.664917
       369.294373</Raw>
    </SeriesOfScalar>
   </AudioDescriptor>
  </Audio>
 </MultimediaContent>
</Description>
</Mpeg7>
```

Public Broadcasting Core (PB Core)

```
<PBCoreDescriptionDocument>
        <pbcoreTitle>
                <title>Secrets of the Lost Canyon</title>
                <titleType>Program</titleType>
        </pbcoreTitle>
        <pbcoreSubject>
                <subject>Prehistoric Native American culture; Desert Cultures; Ancestral Puebloans; Anasazi; Fremont culture; Prehistoric
art; Early Native American arts and crafts; Prehistoric Native American arts and crafts; Desert Cultures; Desert Gatherer arts and crafts; Range
Creek Canyon, Utah</subject>
                <subjectAuthorityUsed>Library of Congress Subject Headings</subjectAuthorityUsed>
        </pbcoreSubject>
        <pbcoreDescription>
                <description>When the existence of Range Creek Canyon, with its hundreds--if not thousands--of ancient, undisturbed,
Fremont Indian sites was announced in the Summer of 2004, worldwide interest focused on a unique parcel of land wedged in a remote corner of
Utah.A Utah ranching family had defied the pressures of encroaching modern society and tourism. The Wilcox family had protected Range Creek
Canyon's ancient sites of the now-vanished Fremont Indians. Despite the passing of five hundred years since the mysterious disappearance of the
Fremonts, the sites and their artifacts had remained untouched. It was shaping up to be a wonderland for archaeologists. But, behind the headlines
and the media hype, there were other stories to be found. Stories that unveiled political deal making, competing interests forced into uneasy
alliances and unspoken pressures that could shape the fate of Range Creek Canyon.</description>
                <descriptionType>Abstract</descriptionType>
        </pbcoreDescription>
        <pbcoreGenre>
                <genre>Documentary; Educational; History; Politics; Western; Nature; Science; Environment</genre>
                <genreAuthorityUsed>PBCore Genre Picklist</genreAuthorityUsed>
        </pbcoreGenre>
        <pbcoreCoverage>
                <coverage>Range Creek Canyon; Emery County; Utah; United States of America</coverage>
                <coverageType>Spatial</coverageType>
        </pbcoreCoverage>
        <pbcoreCoverage>
                <coverage>Contemporary early 21st Century archeological preservation; Fremont Culture up to 1500 AD</coverage>
                <coverageType>Temporal</coverageType>
        </pbcoreCoverage>
        <pbcoreAudienceLevel>
                <audienceLevel>General</audienceLevel>
        </pbcoreAudienceLevel>
        <pbcoreAudienceRating>
                <audienceRating>TV-G</audienceRating>
        </pbcoreAudienceRating>
        <pbcoreCreator>
                <creator>KUED-TV 7</creator>
                <creatorRole>Producer</creatorRole>
        </pbcoreCreator>
        <pbcoreRightsSummary>
                <rightsSummary>Copyright 2006 KUED-TV, University of Utah</rightsSummary>
        </pbcoreRightsSummary>
        <pbcoreInstantiation>
                <dateCreated>2006-05-11</dateCreated>
                <dateIssued>2006-09-10</dateIssued>
                <formatPhysical>Betacam SP</formatPhysical>
                <formatLocation>KUED Program Vault</formatLocation>
                <formatMediaType>Moving Image</formatMediaType>
                <formatGenerations>Moving image/Distribution dub</formatGenerations>
                <formatStandard>NTSC video (interlaced)</formatStandard>
                <formatDuration>56:46:00</formatDuration>
                <formatFrameSize>640x480</formatFrameSize>
                <formatAspectRatio>4:3 (16:9 letterbox)</formatAspectRatio>
                <formatFrameRate>29.97 fps (59.94 fields/sec)</formatFrameRate>
                <formatColors>Color with B&amp;W sequences</formatColors>
                <formatTracks>1 video and 1 audio track</formatTracks>
                <formatChannelConfiguration>Stereo audio</formatChannelConfiguration>
                <language>eng</language>
                <alternativeModes>Closed Captioned in English</alternativeModes>
        </pbcoreInstantiation>
</PBCoreDescriptionDocument>
```

Metadata for Images in XML (MIX)

```xml
<mix>
        <BasicDigitalObjectInformation>
                <fileSize>33</fileSize>
                <byteOrder use="system">little_endian</byteOrder>
                <Compression>
                        <compressionRatio>10</compressionRatio>
                </Compression>
        </BasicDigitalObjectInformation>
        <BasicImageInformation>
                <BasicImageCharacteristics>
                        <imageWidth>400</imageWidth>
                        <imageHeight>200</imageHeight>
                        <PhotometricInterpretation>
                                <YCbCr>
                                        <YCbCrSubSampling>
                                                <yCbCrSubsampleHoriz>1</yCbCrSubsampleHoriz>
                                                <yCbCrSubsampleVert>1</yCbCrSubsampleVert>
                                        </YCbCrSubSampling>
                                        <yCbCrPositioning>1</yCbCrPositioning>
                                        <yCbCrCoefficients/>
                                </YCbCr>
                        </PhotometricInterpretation>
                </BasicImageCharacteristics>
                <SpecialFormatCharacteristics>
                        <JPEG2000>
                                <EncodingOptions>
                                        <qualityLayers>2</qualityLayers>
                                        <resolutionLevels>2</resolutionLevels>
                                </EncodingOptions>
                        </JPEG2000>
                </SpecialFormatCharacteristics>
        </BasicImageInformation>
        <ImageCaptureMetadata>
                <SourceInformation>
                        <SourceSize>
                                <SourceXDimension>
                                        <sourceXDimensionValue>7.63</sourceXDimensionValue>
                                        <sourceXDimensionUnit>in.</sourceXDimensionUnit>
                                </SourceXDimension>
                                <SourceYDimension>
                                        <sourceYDimensionValue>5.29</sourceYDimensionValue>
                                        <sourceYDimensionUnit>in.</sourceYDimensionUnit>
                                </SourceYDimension>
                                <SourceZDimension>
                                        <sourceZDimensionValue>5.29</sourceZDimensionValue>
                                        <sourceZDimensionUnit>in.</sourceZDimensionUnit>
                                </SourceZDimension>
                        </SourceSize>
                </SourceInformation>
                <GeneralCaptureInformation>
                        <dateTimeCreated>2006-06-06</dateTimeCreated>
                        <captureDevice use="system">transmission scanner</captureDevice>
                </GeneralCaptureInformation>
                <DigitalCameraCapture>
                        <cameraSensor>MonochromeArea</cameraSensor>
                        <CameraCaptureSettings>
                                <ImageData>
                                        <fNumber>3</fNumber>
                                        <exposureTime>3.1</exposureTime>
                                        <exposureProgram>1</exposureProgram>
                                        <spectralSensitivity>0.015</spectralSensitivity>
                                        <isoSpeedRatings>100</isoSpeedRatings>
                                        <oECF use="system">
                                                <numerator>2</numerator>
                                        </oECF>
                                        <exifVersion>0220</exifVersion>
                                        <shutterSpeedValue use="system">
```

```xml
                                <numerator>1</numerator>
                                <denominator>8</denominator>
                        </shutterSpeedValue>
                        <apertureValue>
                                <numerator>1</numerator>
                                <denominator>3</denominator>
                        </apertureValue>
                        <brightnessValue use="system">
                                <numerator>-99.99</numerator>
                        </brightnessValue>
                        <exposureBiasValue>
                                <numerator>-3.0</numerator>
                        </exposureBiasValue>
                        <maxApertureValue>
                                <numerator>0.00</numerator>
                        </maxApertureValue>
                        <subjectDistance>5.3</subjectDistance>
                        <meteringMode>Multispot</meteringMode>
                        <lightSource>Daylight</lightSource>
                        <flash>Flash fired</flash>
                        <focalLength>1</focalLength>
                        <flashEnergy>
                                <numerator>1</numerator>
                                <denominator>2</denominator>
                        </flashEnergy>
                        <backLight>Front light</backLight>
                        <exposureIndex>400</exposureIndex>
                        <sensingMethod>1</sensingMethod>
                        <cfaPattern>1</cfaPattern>
                        <autoFocus use="system">Auto Focus Used</autoFocus>
                        <PrintAspectRatio>
                                <xPrintAspectRatio>1</xPrintAspectRatio>
                                <yPrintAspectRatio>1</yPrintAspectRatio>
                        </PrintAspectRatio>
                </ImageData>
            </CameraCaptureSettings>
        </DigitalCameraCapture>
        <orientation>1</orientation>
        <methodology>string</methodology>
    </ImageCaptureMetadata>
    <ImageAssessmentMetadata>
        <SpatialMetrics>
                <samplingFrequencyPlane>1</samplingFrequencyPlane>
                <samplingFrequencyUnit>1</samplingFrequencyUnit>
                <xSamplingFrequency>
                        <numerator>2</numerator>
                </xSamplingFrequency>
                <ySamplingFrequency>
                        <numerator>2</numerator>
                </ySamplingFrequency>
        </SpatialMetrics>
        <ImageColorEncoding>
                <bitsPerSample>
                        <bitsPerSampleValue>8,8,8</bitsPerSampleValue>
                        <bitsPerSampleUnit>integer</bitsPerSampleUnit>
                </bitsPerSample>
                <samplesPerPixel>1</samplesPerPixel>
                <extraSamples>1</extraSamples>
                <grayResponseCurve>N</grayResponseCurve>
                <grayResponseUnit>1</grayResponseUnit>
        </ImageColorEncoding>
    </ImageAssessmentMetadata>

</mix>
```

Audio Engineering Society Core Audio Metadata (AES-X098-B), in development by AES SC-03-06 Working Group

```xml
<aes:audioObject ID="atm_99003_ot11119_010101_preservation-ao" analogDigitalFlag="FILE_DIGITAL" schemaVersion="1.03b">
        <aes:format>Digital file</aes:format>
        <aes:audioDataEncoding>PCM audio in integer format</aes:audioDataEncoding>
        <aes:byteOrder>LITTLE_ENDIAN</aes:byteOrder> <aes:use useType="PRESERVATION_MASTER"/>
        <aes:primaryIdentifier identifierType="FILE_NAME"
            >atm_99003_ot11119_010101_preservation_20060515.wav</aes:primaryIdentifier>
        <aes:secondaryIdentifier identifierType="OTHER" idOtherType="ACCESSION NUMBER">99-003-F</aes:secondaryIdentifier>
        <aes:checksum>
            <aes:checksumValue>63073F9F6565A60656B8A375F3E88585</aes:checksumValue>
            <aes:checksumKind>MD5</aes:checksumKind>
            <aes:checksumCreateDate>2007-01-26T00:00:00</aes:checksumCreateDate>
        </aes:checksum>
        <aes:face direction="FORWARD" audioObjectRef="atm_99003_ot11119_010101_preservation-ao" label="New Face"
ID="atm_99003_ot11119_010101_preservation-face1">
            <aes:timeline>
                <startTime xmlns="http://www.aes.org/tcf" frameCount="25"
                    timeBase="1000" videoField="FIELD_1" countingMode="NTSC_NON_DROP_FRAME">
                    <hours>0</hours> <minutes>0</minutes> <seconds>0</seconds> <frames>0</frames>
                    <filmFraming xsi:type="ntscFilmFramingType" framing="NOT_APPLICABLE"/>
                </startTime>
                <duration xmlns="http://www.aes.org/tcf" frameCount="25"
                    timeBase="1000" videoField="FIELD_1"
                    countingMode="NTSC_NON_DROP_FRAME">
                    <hours>0</hours> <minutes>28</minutes> <seconds>2</seconds> <frames>9</frames>
                    <samples sampleRate="S96000">
                        <numberOfSamples>639</numberOfSamples>
                    </samples>
                    <filmFraming xsi:type="ntscFilmFramingType" framing="NOT_APPLICABLE"/>
                </duration>
            </aes:timeline>
            <aes:region
                formatRef="atm_99003_ot11119_010101_preservation-formatregion1"
                faceRef="atm_99003_ot11119_010101_preservation-face1" label="Region 1"
                ID="atm_99003_ot11119_010101_preservation-face1-region1">
                <aes:timeRange>
                    <startTime xmlns="http://www.aes.org/tcf" frameCount="25"
                        timeBase="1000" videoField="FIELD_1" countingMode="NTSC_NON_DROP_FRAME">
                        <hours>0</hours> <minutes>0</minutes> <seconds>0</seconds> <frames>0</frames>
                        <filmFraming xsi:type="ntscFilmFramingType" framing="NOT_APPLICABLE"/>
                    </startTime>
                    <duration xmlns="http://www.aes.org/tcf" frameCount="25"
                        timeBase="1000" videoField="FIELD_1" countingMode="NTSC_NON_DROP_FRAME">
                        <hours>0</hours> <minutes>28</minutes> <seconds>2</seconds> <frames>9</frames>
                        <samples sampleRate="S96000">
                            <numberOfSamples>639</numberOfSamples>
                        </samples>
                        <filmFraming xsi:type="ntscFilmFramingType" framing="NOT_APPLICABLE"/>
                    </duration>
                </aes:timeRange>
                <aes:numChannels>1</aes:numChannels>
                <aes:stream label="Stream 1"
                    faceRegionRef="atm_99003_ot11119_010101_preservation-face1-region1"
                    ID="atm_99003_ot11119_010101_preservation-face1-region1-stream1">
                    <aes:channelAssignment channelNum="1" mapLocation="center"/>
                </aes:stream>
            </aes:region>
        </aes:face>
        <aes:formatList>
            <aes:formatRegion label="FORMAT REGION 1"
                ownerRef="atm_99003_ot11119_010101_preservation-face1-region1"
                ID="atm_99003_ot11119_010101_preservation-formatregion1">
                <aes:bitDepth>24</aes:bitDepth> <aes:sampleRate>96000</aes:sampleRate> <aes:wordSize>3</aes:wordSize>
                <aes:soundField>Mono</aes:soundField> <aes:noiseReduction>None</aes:noiseReduction>
            </aes:formatRegion>
        </aes:formatList>
    </aes:audioObject>
```

Library of Congress Audio-Visual Prototyping Project Audio (Source) Data Dictionary

```xml
<AUDIOSRC xmlns="http://www.loc.gov/AMD/" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.loc.gov/AMD/ http://lcweb2.loc.gov/mets/Schemas/AMD.xsd"
    ANALOGDIGITALFLAG="FileDigital">
  <file_data>
    <audio_block_size>9000</audio_block_size>
    <audio_data_encoding>PCM audio in integer format</audio_data_encoding>
    <byte_order>0</byte_order>
    <checksum>
      <checksum_type>MD5</checksum_type>
      <checksum_value>63073F9F6565A60656B8A375F3E88585</checksum_value>
    </checksum>
    <data_rate>24</data_rate>
    <data_rate_mode>Fixed</data_rate_mode>
    <format_name>BWAV</format_name>
    <sampling_frequency>96</sampling_frequency>
    <word_size>3</word_size>
  </file_data>
  <audio_info>
    <duration>T00:28:02</duration>
    <num_channels>1</num_channels>
    <sound_field>monaural</sound_field>
  </audio_info>
</AUDIOSRC>
```

Library of Congress Audio-Visual Prototyping Project VideoMD Data Dictionary

```xml
<VIDEOMD ID="1" ANALOGDIGITALFLAG="PhysDigital" xmlns="http://www.loc.gov/VMD/">
   <ns1:timeRange ns1:videoPtr="Complete fake here" xmlns:ns1="http://www.iub.edu/~eviada">
      <ns2:startTime frameCount="30" timeBase="1001" videoField="FIELD_2" countingMode="NTSC_NON_DROP_FRAME"
xmlns:ns2="http://www.aes.org/tcf">
         <ns2:hours>0</ns2:hours>
         <ns2:minutes>0</ns2:minutes>
         <ns2:seconds>0</ns2:seconds>
         <ns2:frames>0</ns2:frames>
         <ns2:samples sampleRate="S48048">
            <ns2:numberOfSamples>12</ns2:numberOfSamples>
         </ns2:samples>
         <ns2:filmFraming/>
      </ns2:startTime>
      <ns3:duration frameCount="30" timeBase="1001" videoField="FIELD_2" countingMode="NTSC_NON_DROP_FRAME"
xmlns:ns3="http://www.aes.org/tcf">
         <ns3:hours>12</ns3:hours>
         <ns3:minutes>12</ns3:minutes>
         <ns3:seconds>12</ns3:seconds>
         <ns3:frames>12</ns3:frames>
         <ns3:samples sampleRate="S48048">
            <ns3:numberOfSamples>12</ns3:numberOfSamples>
         </ns3:samples>
         <ns3:filmFraming/>
      </ns3:duration>
   </ns1:timeRange>
   <file_data>
      <data_rate_mode>Fixed</data_rate_mode>
      <sound>Yes</sound>
   </file_data>
   <physical_data>
      <condition>New Tape</condition>
      <disposition>ATM</disposition>
      <material ID="ID73">
         <base_material>polyester</base_material>
         <binder>MP</binder>
         <disc_surface>Unknown</disc_surface>
         <oxide>MP</oxide>
         <reflective_layer>Unknown</reflective_layer>
         <stock_brand>Sony</stock_brand>
      </material>
      <number_carriers>1</number_carriers>
      <signal_format>NTSC</signal_format>
      <timecode ID="ID74">
         <timecode_record_method>LTC</timecode_record_method>
         <timecode_type>dropframe</timecode_type>
      </timecode>
      <tracking ID="ID75">
         <tracking_type>evia number</tracking_type>
         <tracking_value>1</tracking_value>
      </tracking>
      <videotape_type>Digital BetaCam</videotape_type>
   </physical_data>
   <video_info>
      <aspect_ratio>4:3</aspect_ratio>
      <dimensions DEPTH="-0.0" DIAMETER="-0.0" GAUGE="0.5" HEIGHT="25.0" LENGTH="156" NOTE="N/A"
         THICKNESS="13.8" UNITS="mm" WIDTH="96.0"/>
      <duration>null:null:null:null</duration>
      <frame ID="ID72">
         <pixels_horizontal>720</pixels_horizontal>
         <pixels_vertical>480</pixels_vertical>
         <frame_rate>-1</frame_rate>
         <ns4:frameRate xmlns:ns4="http://www.iub.edu/~eviada">29.27</ns4:frameRate>
         <ns5:lines_horizontal xmlns:ns5="http://www.iub.edu/~eviada">720</ns5:lines_horizontal>
      </frame>
      <note>digi beta notes</note>
   </video_info>
</VIDEOMD>
```

Audio Engineering Society Process History Metadata (AES-X098-C), in development by AES SC-03-06 Working Group

```xml
<ph:processHistory ID="atm_99003_ot11119-ph" schemaVersion="1.0">
          <ph:processEvent sequenceNum="1" label="atm_99003_ot11119-ph-event1"
      ID="atm_99003_ot11119-ph-event1">
        <ph:operator ID="PaulMahern">
          <ph:lastName>Mahern</ph:lastName>
          <ph:firstName>Paul</ph:firstName>
          <ph:organization>Indiana University Archives of Traditional Music</ph:organization>
          <ph:street1>Studio 1</ph:street1>
          <ph:city>Bloomington</ph:city>
          <ph:countryCode>USA</ph:countryCode>
        </ph:operator>
        <ph:creationDate>2006-05-15T10:35:16</ph:creationDate>
        <ph:deviceChain ID="atm_99003_ot11119-ph-event1-devicechain"
          masterSyncDeviceRef="atm_99003_ot11119-ph-event1-device2"
          label="Revox B77 Preservation">
          <ph:device ID="atm_99003_ot11119-ph-event1-device1">
            <ph:descriptor>
              <ph:manufacturer>Revox</ph:manufacturer>
              <ph:modelName>B 77MK II</ph:modelName>
              <ph:serialNumber>186945</ph:serialNumber>
              <ph:kind>Open reel tape machine</ph:kind>
              <ph:userLabel>Revox B 77 MK II</ph:userLabel>
            </ph:descriptor>
            <ph:outputChannel
              patchRef="atm_99003_ot11119-ph-event1-device1-patchlist-patch1"
              routing="OUTPUT" format="ANALOG_RCA"
              deviceRef="atm_99003_ot11119-ph-event1-device1"
              label="Output L"
              ID="atm_99003_ot11119-ph-event1-device1-channel1"/>
            <ph:settings>
              <ph:singleStateParameter name="Speed"
                interface="ANALOG_STEPPED" value="1.875"
                units="Inches per second"
                ID="atm_99003_ot11119-ph-event1-device1-setting1"/>
            </ph:settings>
            <ph:inputMediaChannel
              ID="atm_99003_ot11119-ph-event1-device1-mediachannel1"
              label="MediaIn"
              patchRef="atm_99003_ot11119-ph-event1-device1-patchlist-patch1"
              streamRef="atm_99003_ot11119-ph-event1-inMedia-stream1"
              channelNumber="1" multiplexed="false"
              deviceRef="atm_99003_ot11119-ph-event1-device1"/>
            <ph:patchList ID="atm_99003_ot11119-ph-event1-device1-patchlist">
              <ph:patch
                ID="atm_99003_ot11119-ph-event1-device1-patchlist-patch1"
                sourceRef="atm_99003_ot11119-ph-event1-device1-mediachannel1"
                destinationRef="atm_99003_ot11119-ph-event1-device1-channel1"/>
            </ph:patchList>
          </ph:device>
          <ph:devicePatchList ID="atm_99003_ot11119-ph-event1-patchlist">
            <ph:patch
              sourceRef="atm_99003_ot11119-ph-event1-device1-channel1"
              destinationRef="atm_99003_ot11119-ph-event1-device2-channel1"
              ID="atm_99003_ot11119-ph-event1-patchlist-patch1"/>
            <ph:patch
              sourceRef="atm_99003_ot11119-ph-event1-device2-channel4"
              destinationRef="atm_99003_ot11119-ph-event1-device3-channel1"
              ID="atm_99003_ot11119-ph-event1-patchlist-patch2"/>
            <ph:patch
              sourceRef="atm_99003_ot11119-ph-event1-device3-channel11"
              destinationRef="atm_99003_ot11119-ph-event1-device4-channel1"
              ID="atm_99003_ot11119-ph-event1-patchlist-patch3"/>
          </ph:devicePatchList>
        </ph:deviceChain>
        <ph:mediaPool ID="atm_99003_ot11119-ph-event1-mediapool">
```

```xml
        <ph:media temporary="false" ID="atm_99003_ot11119-ph-event1-inMedia"
            kind="CORE_AUDIO_METADATA">
          <ph:mediaLocation/>
          <ph:stream label="inMedia" streamNum="1"
              mediaRef="atm_99003_ot11119-ph-event1-inMedia"
              ID="atm_99003_ot11119-ph-event1-inMedia-stream1"/>
        </ph:media>
        <ph:media temporary="false"
            ID="atm_99003_ot11119-ph-event1-outMedia"
            kind="CORE_AUDIO_METADATA">
          <ph:mediaLocation/>
          <ph:stream label="outMedia" streamNum="1"
              mediaRef="atm_99003_ot11119-ph-event1-outMedia"
              ID="atm_99003_ot11119-ph-event1-outMedia-stream1"/>
        </ph:media>
      </ph:mediaPool>
      <ph:syncGroup
          masterMediaRef="atm_99003_ot11119-ph-event1-syncGroup1-syncMedia1"
          sequenceNum="1" ID="atm_99003_ot11119-ph-event1-syncGroup1">
        <ph:syncMedia mediaRef="atm_99003_ot11119-ph-event1-inMedia"
            groupRef="atm_99003_ot11119-ph-event1-syncGroup1"
            ID="atm_99003_ot11119-ph-event1-syncGroup1-syncMedia1"/>
        <ph:syncMedia mediaRef="atm_99003_ot11119-ph-event1-outMedia"
            groupRef="atm_99003_ot11119-ph-event1-syncGroup1"
            ID="atm_99003_ot11119-ph-event1-syncGroup1-syncMedia2"/>
        <ph:timeRange>
          <startTime xmlns="http://www.aes.org/tcf" frameCount="25"
              timeBase="1000" videoField="FIELD_1"
              countingMode="NTSC_NON_DROP_FRAME">
            <hours>0</hours>
            <minutes>0</minutes>
            <seconds>0</seconds>
            <frames>0</frames>
            <filmFraming xsi:type="ntscFilmFramingType"
                framing="NOT_APPLICABLE"/>
          </startTime>
        </ph:timeRange>
      </ph:syncGroup>
      <ph:mediaPatchList ID="atm_99003_ot11119-ph-event1-mediapatchlist"/>
    </ph:processEvent>
</ph:processHistory>
```

Metadata Encoding and Transmission Standard (METS)

```xml
<mets:mets xmlns:mets="http://www.loc.gov/METS/"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xlink="http://www.w3.org/1999/xlink"
    xmlns:marc21="http://www.loc.gov/MARC21/slim"
    xmlns:rights="http://cosimo.stanford.edu/sdr/metsrights/"
    xmlns:aes="http://www.aes.org/audioObject"
    xmlns:adlfade="http://www.dib.indiana.edu/xml/sounddirections/adlFade/"
    xmlns:ph="http://www.aes.org/processhistory"
    xsi:schemaLocation="http://www.loc.gov/METS/
http://www.loc.gov/standards/mets/version15/mets.xsd      http://www.loc.gov/MARC21/slim
http://www.loc.gov/standards/marcxml/schema/MARC21slim.xsd
http://cosimo.stanford.edu/sdr/metsrights/  http://www.loc.gov/standards/rights/METSRights.xsd
http://www.aes.org/audioObject http://www.dlib.indiana.edu/lib/xml/aes/audioObject.xsd
http://www.dib.indiana.edu/xml/sounddirections/adlFade/ http://www.dlib.indiana.edu/lib/xml/sounddirections/adlFade/adlFade.xsd
http://www.aes.org/processhistory http://www.dlib.indiana.edu/lib/xml/aes/processHistory.xsd"
    ID="atm_99003_ot11119">

<mets:metsHdr CREATEDATE="2007-03-08T08:01:10"/>

<mets:dmdSec ID="atm_99003_ot11119-dmd-marc"/>

<mets:amdSec ID="atm_99003_ot11119-amd"/>
            <mets:techMD ID="atm_99003_ot11119_010101_preservation-aesCoreAudio"/>
            <mets:techMD ID="atm_99003_ot11119_010201_preservation-aesCoreAudio"/>
            <mets:techMD ID="atm_99003_ot11119_01_production2496-aesCoreAudio"/>
            <mets:techMD ID="atm_99003_ot11119_020101_preservation-aesCoreAudio"/>
            <mets:techMD ID="atm_99003_ot11119_02_production2496-aesCoreAudio"/>
            <mets:techMD ID="atm_99003_ot11119_01_preservation-adl"/>
            <mets:techMD ID="atm_99003_ot11119_01_production2496-adl"/>
            <mets:techMD ID="atm_99003_ot11119_020101_preservation-adl">
            <mets:techMD ID="atm_99003_ot11119_02_production2496-adl"/>
            <mets:sourceMD ID="atm_99003_ot11119-source"/>
            <mets:digiprovMD ID="atm_99003_ot11119-processHistory"/>
</mets:amdSec>

<mets:fileSec>
            <mets:fileGrp ID="files-audio"/>
            <mets:fileGrp ID="files-aes31" USE="ADL"/>
            <mets:fileGrp ID="files-doc" USE="descMD"/>
</mets:fileSec>

<mets:structMap TYPE="logical">
            <mets:div TYPE="recording" LABEL="atm_99003_ot11119">
                <mets:div TYPE="face" LABEL="atm_99003_ot11119_01"/>
                <mets:div TYPE="face" LABEL="atm_99003_ot11119_02"/>
            </mets:div>
</mets:structMap>

</mets:mets>
```

SMPTE Material eXchange Format (MXF)

```
<s377m:MXFFile xmlns:s377m="urn:SMPTE:S377M" xmlns:analyzer="http://www.irt.de/mxf/analyzer/errortables/20060710"
xmlns:dms1="urn:SMPTE:Groups:DMS1" xmlns:groups="urn:SMPTE:Groups:MXF" xmlns:irt="http://www.irt.de/mxf/analyzer/mxf-xml-
extensions/20060605" xmlns:rp210="urn:SMPTE:Dictionary" xmlns:s381m="urn:SMPTE:Groups:S381M"
xmlns:s382m="urn:SMPTE:Groups:S382M" xmlns:types="urn:SMPTE:Types:MXF">
<s377m:HeaderMetadata>
    <s377m:MetadataSets>
      <groups:Preface rp210:InstanceUID="3b.44.4c.f2.7e.4b.11.dc.9f.4c.00.30.1b.bc.08.25">
        <rp210:LastModifiedDate>
          <types:Year>2007</types:Year>
          <types:Month>10</types:Month>
          <types:Day>19</types:Day>
          <types:Hour>13</types:Hour>
          <types:Minute>57</types:Minute>
          <types:Second>28</types:Second>
          <types:mSec4>171</types:mSec4>
        </rp210:LastModifiedDate>
        <rp210:Version>258</rp210:Version>
        <rp210:ObjectModelVersion>1</rp210:ObjectModelVersion>
        <rp210:OperationalPattern>06.0e.2b.34.04.01.01.01.0d.01.01.02.01.01.09.00</rp210:OperationalPattern>
        <rp210:EssenceContainers>
          <rp210:Element>06.0e.2b.34.04.01.01.01.0d.01.03.01.02.06.03.00</rp210:Element>
          <rp210:Element>06.0e.2b.34.04.01.01.02.0d.01.03.01.02.04.60.01</rp210:Element>
          <rp210:Element>06.0e.2b.34.04.01.01.03.0d.01.03.01.02.7f.01.00</rp210:Element>
        </rp210:EssenceContainers>
        <rp210:DMSchemes>
          <rp210:Element>06.0e.2b.34.04.01.01.04.0d.01.04.01.01.02.01.01</rp210:Element>
        </rp210:DMSchemes>
      </groups:Preface>
    </s377m:MetadataSets>
  </s377m:HeaderMetadata>
 </s377m:Header_Partition>
</s377m:MXFFile>
```

Synchronized Multimedia Integration Language (SMIL)

```
<smil>
  <head>
    <layout>
      <root-layout width="300" height="200" background-color="white" />
      <region id="vim_icon" left="75" top="50" width="32" height="32" />
      <region id="soja_icon" left="150" top="50" width="100" height="30" />
    </layout>
  </head>
  <body>
    <seq>
      <img src="vim32x32.gif" alt="The vim icon"
        region="vim_icon" dur="6s" />
      <img src="madewithsoja.gif" alt="Made with SOJA"
        region="soja_icon" dur="4s" begin="1s" />
    </seq>
  </body>
</smil>


<smil>
  <head>
    <layout>
      <root-layout width="300" height="200" background-color="white" />
      <region id="vim_icon" left="75" top="50" width="32" height="32" />
      <region id="soja_icon" left="150" top="50" width="100" height="30" />
    </layout>
  </head>
  <body>
    <par>
      <img src="vim32x32.gif" region="vim_icon" id="vim" begin="4s" />
      <img src="madewithsoja.gif" region="soja_icon" begin="id(vim)(2s)" />
    </par>
  </body>

</smil>
```

AES31-3-1999: AES standard for network and file transfer of audio -- Audio-file transfer and exchange -- Part 3: Simple project interchange

```
<ADL>
        <VERSION>
                (ADL_ID)        "06,64,43,52,01,01,01,04,01,02,03,04,"
                (ADL_UID)       5E47C997-D4A0-7BF9-E74C-EA9EC3D1621C
                (VER_ADL_VERSION)       01.01.00.00.03
                (VER_CREATOR)   "WaveLab"
                (VER_CRTR)      6.00b_(build_291)
        </VERSION>
        <PROJECT>
                (PROJ_TITLE)    "Untitled 1"
                (PROJ_ORIGINATOR)       "Steinberg Media Technologies"
                (PROJ_CREATE_DATE)      2006-11-01T11:40:15
                (PROJ_NOTES)    "_"
                (PROJ_CLIENT_DATA)      "_"
        </PROJECT>
        <SYSTEM>
                (SYS_SRC_OFFSET)        00.00.00.00*0000
                (SYS_BIT_DEPTH)         32
                (SYS_GAIN)      0.0
        </SYSTEM>
        <SEQUENCE>
                (SEQ_SAMPLE_RATE)       S96000
                (SEQ_FRAME_RATE)        25
                (SEQ_ADL_LEVEL)         1
                (SEQ_CLEAN)     FALSE
                (SEQ_SORT)      0
                (SEQ_MULTICHAN)         TRUE
                (SEQ_DEST_START)        00.00.00.00*0000
        </SEQUENCE>
        <TRACKLIST>
                (Track) 1       ""
                (Track) 2       ""
        </TRACKLIST>
        <SOURCE_INDEX>
                (Index) 1
                        (F)     "url:file://localhost/D:\Ronda Production Files\workflow test\10-
17850\atm_82406_10n17850_010101_preservationInt_20061101.wav"
                        6DDC01AFB951B3A7E1C79F552D37217F     00.00.00.00*0000
00.02.41.12*3329        "_"     "N"
        </SOURCE_INDEX>
        <EVENT_LIST>
                (Entry) 1
                        (Cut)   I       1       1~2     1~2
                                00.00.00.00*0000        00.00.00.00*0000        00.02.41.12*3329
        R
                        (InFade)        00.00.00.00*1920        LIN     0.000   0.000   0.000
                        (OutFade)       00.00.00.00*1920        LIN     0.000   0.000   0.000
                        (Rem)   NAME    "atm_82406_10n17850_010101_preservationInt_20061101"
        </EVENT_LIST>
        <NUENDO_CUELIST>
                00.00.00.00*0000        "Region 01"
                00.01.38.18*1040        "Region 02"
                00.02.41.12*3329        ""
        </NUENDO_CUELIST>
        <WAVELAB_CHANNEL_MAPPING>
                mode k_dvda_stereo
```

MusicXML

```xml
<score-partwise version="2.0">
  <work>
    <work-number>Op. 98</work-number>
    <work-title>An die ferne Geliebte (Page 1)</work-title>
  </work>
  <identification>
    <creator type="composer">Ludwig van Beethoven</creator>
</identification>
<credit page="1">
    <credit-words default-x="680" default-y="1678" font-size="24" justify="center" valign="top">An die ferne Geliebte</credit-words>
    <credit-words font-size="24" font-weight="bold">
</credit-words>
    <credit-words font-size="14" font-weight="normal">Op. 98</credit-words>
  </credit>
<credit page="1">
    <credit-words default-x="1280" default-y="1545" font-size="12" halign="right" justify="center" valign="top">Ludwig van
Beethoven</credit-words>
  </credit>
  <part-list>
    <score-part id="P1">
      <part-name>Voice</part-name>
      <score-instrument id="P1-I3">
        <instrument-name>Voice</instrument-name>
      </score-instrument>
    </score-part>
    <score-part id="P2">
      <part-name>Piano</part-name>
      <score-instrument id="P2-I2">
        <instrument-name>Acoustic Grand Piano</instrument-name>
      </score-instrument>
    </score-part>
  </part-list>
  <part id="P1">
    <measure number="1" width="324">
      <print>
        <system-layout>
          <system-margins>
            <left-margin>150</left-margin>
            <right-margin>0</right-margin>
          </system-margins>
          <top-system-distance>300</top-system-distance>
        </system-layout>
      </print>
      <attributes>
        <divisions>24</divisions>
        <key>
          <fifths>-3</fifths>
          <mode>major</mode>
        </key>
        <time>
          <beats>3</beats>
          <beat-type>4</beat-type>
        </time>
        <clef>
          <sign>G</sign>
          <line>2</line>
        </clef>
      </attributes>
      <direction placement="above">
        <direction-type>
          <words default-y="26" font-size="11" font-weight="bold" relative-x="-40" xml:lang="de">Ziemlich langsam und mit Ausdruck</words>
        </direction-type>
        <sound tempo="60"/>
      </direction>
      <direction placement="above">
        <direction-type>
          <words default-y="60" font-size="16" font-weight="bold" relative-x="-41" xml:lang="de">No. 1</words>
```

```xml
        </direction-type>
      </direction>
      <note default-x="136">
        <rest/>
        <duration>24</duration>
        <voice>1</voice>
        <type>quarter</type>
      </note>
      <note default-x="196">
        <pitch>
          <step>B</step>
          <alter>-1</alter>
          <octave>4</octave>
        </pitch>
        <duration>24</duration>
        <voice>1</voice>
        <type>quarter</type>
        <stem default-y="-55.5">down</stem>
        <lyric default-y="-80" number="1">
          <syllabic>single</syllabic>
          <text>Auf</text>
        </lyric>
      </note>
      <note default-x="257">
        <pitch>
          <step>B</step>
          <alter>-1</alter>
          <octave>4</octave>
        </pitch>
        <duration>24</duration>
        <voice>1</voice>
        <type>quarter</type>
        <stem default-y="-55.5">down</stem>
        <lyric default-y="-80" number="1">
          <syllabic>single</syllabic>
          <text>dem</text>
        </lyric>
      </note>
    </measure>
  </part>
</score-partwise>
```

Music Encoding Initiative (MEI)

```xml
<mei version="1.7b">
  <meihead>
  <filedesc>
     <titlestmt>
       <title>Piano Sonata in A Major, K. 331</title>
       <respstmt>
        <agent type="composer">Wolfgang Amadeus Mozart</agent>
       </respstmt>
     </titlestmt>
   </filedesc>
  </meihead>
  <work>
   <music>
     <mdiv>
      <score>
        <scoredef>
         <staffgrp>
           <instrdef id="P1-I1" midi.channel="1" midi.instr="1" midi.instrname="Acoustic Grand Piano"/>
           <staffdef n="1" clef.line="2" clef.shape="G" midi.div="4"/>
           <staffdef n="2" clef.line="4" clef.shape="F" midi.div="4"/>
         </staffgrp>
        </scoredef>
        <section>
         <scoredef meter.count="2" meter.unit="4" key.sig="3s" key.mode="major"/>
         <measure n="1" id="d1e31">
           <staff def="1">
            <layer def="1">
             <note id="d1e58" tstamp="0" pname="c" oct="6" dur="2" dur.ges="8" stem.dir="up" acci.ges="s"/>
            </layer>
            <layer def="2">
             <chord id="d43e1" tstamp="0" dur="4" dur.ges="4" stem.dir="down">
              <note id="d1e81" pname="c" oct="5" acci.ges="s"/>
              <note id="d1e101" pname="e" oct="5"/>
              <note id="d1e120" pname="a" oct="5"/>
             </chord>
             <space id="d1e139" tstamp="4" dur.ges="4"/>
            </layer>
           </staff>
           <staff def="2">
            <layer def="1">
             <beam>
              <note id="d1e149" tstamp="0" grace="unacc" pname="a" oct="2" dur="16" dur.ges="0" stem.dir="up"/>
              <note id="d1e170" tstamp="0" grace="unacc" pname="c" oct="3" dur="16" dur.ges="0" stem.dir="up" acci.ges="s"/>
              <note id="d1e191" tstamp="0" grace="unacc" pname="e" oct="3" dur="16" dur.ges="0" stem.dir="up"/>
             </beam>
             <beam>
              <note id="d1e211" tstamp="0" pname="a" oct="3" dur="8" dur.ges="2" stem.dir="down"/>
              <note id="d1e231" tstamp="2" pname="a" oct="3" dur="8" dur.ges="2" stem.dir="down"/>
              <note id="d1e249" tstamp="4" pname="a" oct="3" dur="8" dur.ges="2" stem.dir="down"/>
              <note id="d1e267" tstamp="6" pname="a" oct="3" dur="8" dur.ges="2" stem.dir="down"/>
             </beam>
            </layer>
           </staff>
           <phrase tstamp="0" place="above" start="d1e149" dur="0m+0" end="d1e211" staff="2"/>
           <arpeg tstamp="0" plist="d1e58" staff="1" layer="1"/>
           <arpeg tstamp="0" plist="d1e81 d1e101 d1e120" staff="1" layer="2"/>
         </measure>
        </section>
      </score>
     </mdiv>
   </music>
  </work>
</mei>
```