

Re-Conceptualising Medium of Performance as Linked Data

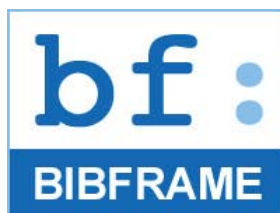
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BaruchCOLLEGE CUNY

IAML Congress • July 8, 2016

BIBFRAME 1.0 Data Model



- Work
- Instance
- Authority
- Annotation



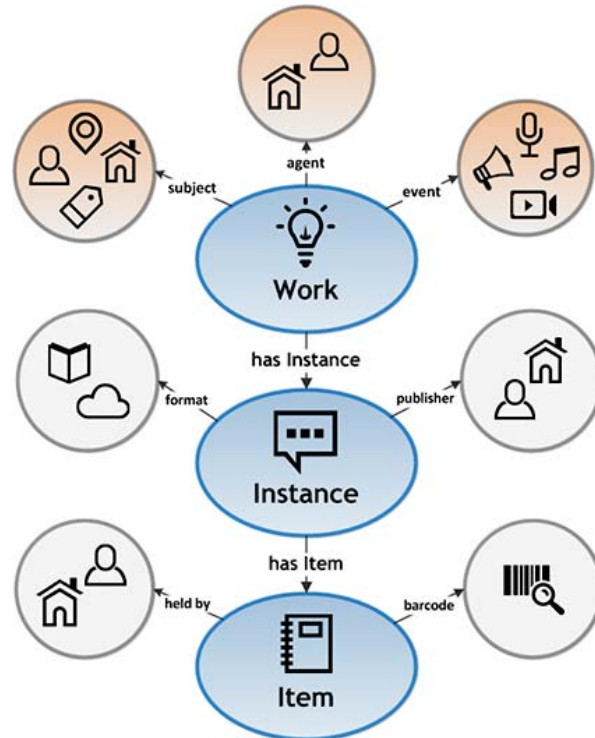
<http://de.slideshare.net/zepheiraorg/bibliographic-14207718>

Medium of Performance in BIBFRAME • Kimmy Szeto • IAML/IMS Joint Congress, June 23, 2015

BIBFRAME 2.0 Data Model



- Work
- Instance
- ~~Authority~~
- ~~Annotation~~
- Item



<https://www.loc.gov/bibframe/docs/bibframe2-model.html>

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MARC to BIBFRAME Mapping (Review)

From MARC ...

```
=LDR 00737cjm a2200181 a 4500
=001 ocm03503263\
=003 OCoLC
=005 20140822103801.0
=007 sd\bsmennmplue
=008 050617s1976\|||nyumunn\h|||n\spald
-048 \bvb01$aoa
-048 \bkc01$awa01$awb01$awc01$asa01$acc01
=100 1$aFalla, Manuel de,$d1876-1946
=240 10$aSombrero de tres picos,$mmezzo-soprano, ensemble
=245 14$aThe three-cornered hat$h[sound recording] :$bcomplete ballet ; Harpsichord con
-382 01$bmezzo-soprano voice$n1$aorchestra$vversion for voice and orchestra$2lcmpt
-382 01$bharpsichord$n1$aflute$n1$aoboe$n1$aclarinet$n1$aviolin$n1$acello$n1$se$2lc
=700 1$aBoulez, Pierre,$tHarpsichord conce$o,$mharpsichord, ensemble
```

MARC to BIBFRAME Mapping (Review)

```

"type": "Work",
"id": "ocm03503263 ",
"bf-id": "ocm03503263 ",
"uri": "http://bibframe.org/resources/UVZ1432328053/ocm03503263",
"label": "Falla, Manuel de, 1876-1946. Sombrero de tres picos",
"bf-authorizedAccessPoint": ["Falla, Manuel de, 1876-1946. Somb
"boullezpierrefallamanuelde18761946sombroderetrespicosmezzosopranoensemblespawor
"madsrdf-authoritativeLabel": "Sombrero de tres picos. mezzo-soprano, ensemble"
"bf-workTitle": "ocm03503263 title6",
"bf-creator": "ocm03503263 creator3",
"bf-musicMediumNote": "mezzo-soprano, ensemble" "orchestra" "flute oboe clar
"bf-language": "http://id.loc.gov/vocabulary/language8/spa",

```

... to BIBFRAME

240 \$m

382 \$a
(the 1st 382)

382 \$a
(the 2nd 382)

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MARC to BIBFRAME Mapping (Review)

La péri Dukas. The three-cornered hat ; Harpsichord concerto / De Falla.

Creator(s) Dukas, Paul, 1865-1935.

Conductor(s) Boulez, Pierre, 1925-

Performer(s) De Gaetani, Jan.
New York Philharmonic.
Kipnis, Igor.

Contributor(s) Kipnis, Igor.
New York Philharmonic.
Boulez, Pierre, 1925-
De Gaetani, Jan.

Subject(s) Concertos (Harpsichord)
Ballets.

Featured M... mezzo-soprano voice
harpsichord

Performanc... orchestra
flute
violin
oboe
cello
clarinet

Performer N... Jan de Gaetani, mezzo-soprano (2nd work) ; New York Philharmonic (1st and 2nd works) ; Igor

... insufficient semantics ...

```

<nKGJVaGA> a
    ns3:Audio,
    ns3:Music,
    ns3:Musical .
    rdfs:label "The three-cornered hat comp
    ns2:featuredMedium "harpsichord",
    "mezzo-soprano voice" ;
    ns2:mediumNote "version for voice and o
    ns2:numberOfPerformers "6" ;
    ns2:performanceMedium "cello",
    "clarinet",
    "flute",
    "oboe",
    "orchestra",
    "violin" ;
    vb:creator <GEf5QF3K> ;
    vb:language "spa" ;
    vb:memberOf <5HpzcVUX> ;
    vb:title "The three-cornered hat" ;

```

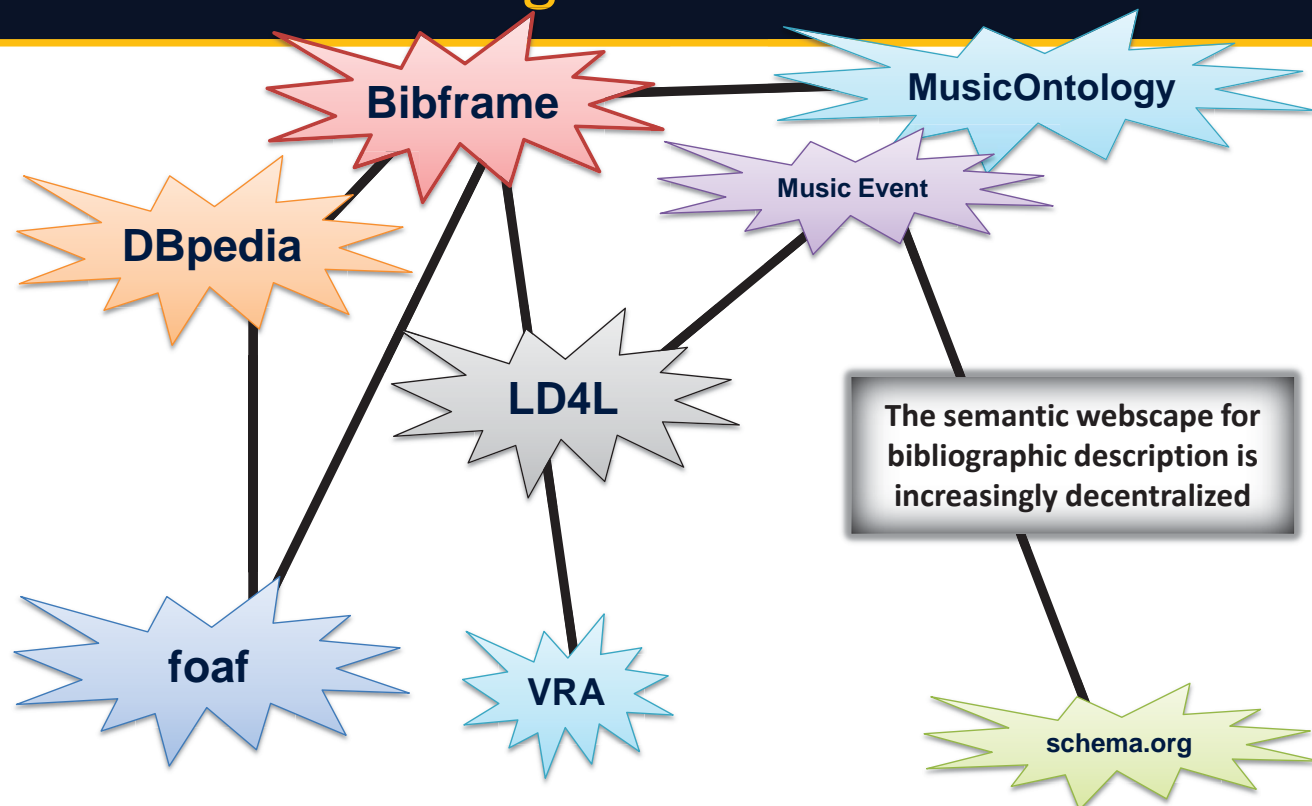

MARC to BIBFRAME Mapping (Review)

... insufficient semantics ...

MARC		LC Converter	Zepheira Converter
048 ‡a‡b	Number of Musical Instruments or Voices	not retained	To a placeholder
382 ‡a	Medium of Performance	bf:musicMediumNote	performanceMedium
382 ‡b	Soloist	not retained	featuredMedium
382 ‡d	Doubling instrument	bf:musicMediumNote	not retained
382 ‡p	Alternative medium of performance	bf:musicMediumNote	alternativeMedium
382 ‡n	Number of performers of the same medium	not retained	numberOfPerformers
382 ‡s	Total number of performers	not retained	numberOfPerformers
382 ‡v	Note	not retained	mediumNote
382 ‡2	Source of term	not retained	not retained
240 ‡m	Medium of performance in the uniform title	bf:musicMediumNote	musicMedium
700 ‡m	Medium of performance in an access point	bf:authorized AccessPoint	musicMedium
650 ‡a	Subject heading	subject	subject
500 ‡a	Note	bf:note	note

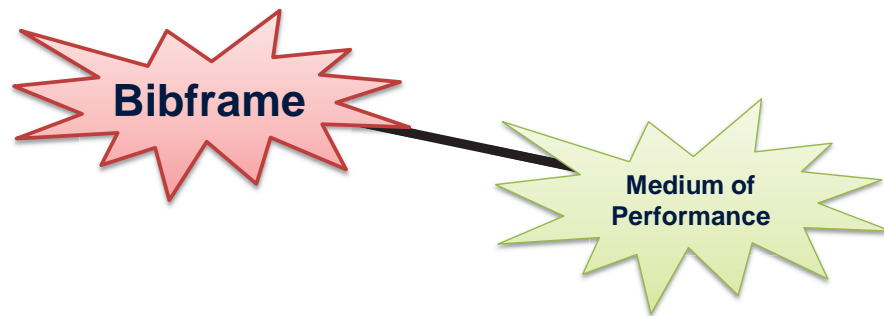
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Design and Tinker



Medium of Performance

Let's consider medium of performance independently



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Medium of Performance – Problems

Problems with developing a medium of performance ontology based on MARC data conversion

Unclear Relationships

- Relationship with FRBR Work, FRBR Expression, and FRBR Manifestation as instructed in content standards such as AACR2, RDA, MARC, and UNIMARC
- “Original” \leftrightarrow “derivative” (arrangement, reduction, piano/vocal scores, alternative, etc.)
- Instrumentation \leftrightarrow Parts \leftrightarrow Performers \leftrightarrow Number of Hands

Unclear Constructs

- “Principal” instrument \leftrightarrow instrumental doubling
- Ensembles \leftrightarrow “Generic Instruments” \leftrightarrow Instruments/Voices
- When to apply other specific attributes such as tessitura and key

MARC Encoding

- Dependence on field adjacency

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Medium of Performance – AACR2

... “work”
... “intended”

AACR2 5.7B1. Form of composition and medium of performance.

...

Name the medium of performance for which a musical work is intended unless it is named in the rest of the description in English or in foreign language terms that can be readily understood. Name voices before instruments. Name the voices and then the instruments in the order in which they are listed in the item being described. Name a voice or instrument in English unless there is no satisfactory English equivalent.

If the work is for solo instruments, name them all if no more than eleven would be named. If the work is for an orchestra, band, etc., do not list the instruments involved. In describing ensemble vocal music, add to the appropriate term a parenthetical statement of the component voice parts, using *S* (soprano), *Mz* (mezzo-soprano), *A* (alto), *T* (tenor), *Bar* (baritone), and *B* (bass). Repeat an abbreviation, if necessary, to indicate the number of parts.

If the information relating to the medium of performance given in the rest of the description is ambiguous or insufficient, record supplementary information here.

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Medium of Performance – RDA

Medium of Performance

Medium of performance is a core element when needed to differentiate a musical work from another work with the same title. It may also be a core element when identifying a musical work with a title that is not distinctive.

6.15.1

Basic Instructions on Recording Medium of Performance

6.15.1.1

Scope

Medium of Performance is the instrument, instruments, voice, voices, etc., for which a musical work was originally conceived.

...

6.15.1.3

Recording Medium of Performance

Record the medium of performance by applying these instructions, as applicable:

instrumental music intended for one performer to a part (see [6.15.1.4](#))

instruments (see [6.15.1.5](#))

accompanying ensembles with one performer to a part (see [6.15.1.6](#))

instrumental music for orchestra, string orchestra, or band (see [6.15.1.7](#))

one or more solo instruments and accompanying ensemble (see [6.15.1.8](#))

solo voices (see [6.15.1.9](#))

choruses (see [6.15.1.10](#))

indeterminate medium of performance (see [6.15.1.11](#)).

Record medium of performance as a separate element, as part of an access point, or as both. For instructions on recording medium of performance as part of the authorized access point, see [6.28.1.9–6.28.1.10](#).

... FRBR “work”
... “conceived”

Medium of Performance – RDA

6.15.1.3

...

Use *continuo* for a thorough bass part whether it is named *continuo*, *figured bass*, *thorough bass*, or *continuo*, and whether the individual instruments of the continuo are specified or not.

For guidelines on recording details about the medium of performance, apply the instructions for medium of performance of musical content at [7.21](#).

Go to 7.21

6.15.1.4

Instrumental Music Intended for One Performer to a Part

For instrumental music intended for one performer to a part, record each instrument by applying the instructions at [6.15.1.5](#) and [6.15.1.11](#).

Exceptions

If the medium includes a continuo part, record the name of the part (see [6.15.1.3](#)).

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Medium of Performance – RDA

Basic Instructions on Recording Medium of Performance

7.21.1.1

Scope

Medium of performance of musical content is the instrument, instruments, voice, voices, etc., used (or intended to be used) for performance of musical content.

For instructions on recording the medium of performance of a musical work, see [6.15](#).

7.21.1.3

Recording Medium of Performance of Musical Content

Record the details on medium of performance of musical content if considered important for identification or selection. Use abbreviations for voices as instructed in appendix B ([B.5.6](#)).

... "performance"

(i.e. FRBR Expression, not work)

EXAMPLE

For unaccompanied child's voice

Reduction for clarinet and piano

Part for piano only

SA

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Medium of Performance – MARC

382 - Medium of Performance (R)

MARC 21 Bibliographic - Full

April 2016

First Indicator

Display constant controller

- No information provided

0 - Medium of performance

1 - Partial medium of performance

Second Indicator

Access control

- No information provided

0 - Not intended for access

1 - Intended for access

Subfield Codes

\$a - Medium of performance (R)

\$b - Soloist (R)

\$d - Doubling instrument (R)

\$e - **Number of ensembles of the same type** (R)

\$n - Number of performers of the same medium (R)

\$p - Alternative medium of performance (R)

\$r - **Total number of individuals performing**

ensembles (NR)

\$s - Total number of performers (NR)

\$t - Total number of ensembles (NR)

\$v - Note (R)

\$0 - Authority record control number or standard number (R)

FIELD DEFINITION AND SCOPE

For manifestations: the instrumental, vocal, and/or other medium of performance embodied in the manifestation.

For works and expressions: the instrumental, vocal, and/or other medium of performance for which a musical work was originally conceived or for which a musical expression is written or performed. May be used to differentiate a musical work or expression from another with the same title.

... “manifestation”
... “works and expressions”
(i.e. not just “work”)

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Medium of Performance – Problems

Problems with developing a medium of performance ontology based on MARC data conversion

Unclear Relationships

- Relationship with FRBR Work, FRBR Expression, and FRBR Manifestation as instructed in content standards such as AACR2, RDA, MARC, and UNIMARC
- “Original” ↔ “derivative” (arrangement, reduction, piano/vocal scores, alternative, etc.)
- Instrumentation ↔ Parts ↔ Performers ↔ Number of Hands

Unclear Constructs

- “Principal” instrument ↔ instrumental doubling
- Ensembles ↔ “Generic Instruments” ↔ Instruments/Voices
- When to apply other specific attributes such as tessitura and key

MARC Encoding

- Dependence on field adjacency

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Medium of Performance

AACR2 5.7B1. Form of composition

...

Name the medium of performance as named in the rest of the description that can be readily understood. If the work is for solo instrument, name the instrument. If the work is for ensemble, name the instruments. If the work is for voice, name the voice. If the work is for electronic music, name the medium. If the work is for other media, name the medium. If the work is for other media, name the medium. If the work is for other media, name the medium.

If the work is for solo instrument, name the instrument. If the work is for ensemble, name the instruments. If the work is for voice, name the voice. If the work is for electronic music, name the medium. If the work is for other media, name the medium. If the work is for other media, name the medium.

For organ
For unaccompanied voice
For voice and piano
For voice, 2 violins, and piano
Arr. for guitar
Electronic music
For alto saxophone and piano
For solo voice and electronic tape
Reduction for clarinet and piano
For piano, 4 hands
For soprano and piano
For voice and sitar
For solo voices (SATB), chorus (SSATB), and orchestra
For 2 treble recorders, 2 oboes, 2 violins, and basso continuo
For superius, contratenor, tenor, and bassus

Attributes of medium of performance are not the medium of performance

Part for piano only

Score for violoncello and piano, part for clarinet

(Title page reads: For violoncello or clarinet or viola, and piano)

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Medium of Performance – MARC

048 - Number of Musical Instruments or Voices Code (R)

MARC 21 Bibliographic - Full October 2006

Subfield Codes

\$a - Performer or ensemble (R)
\$b - Soloist (R)

First Indicator

Undefined
- Undefined

\$2 - Source of code (NR)

... enter code for the arrangement
... i.e. not the "original"

FIELD DEFINITION AND SCOPE

Two-character code that indicates the medium of performance for a musical composition. Always contains the *number* of parts, indicated by a two-digit number immediately following the code for the musical instruments or voices (e.g., va02, a two-part composition for Voices - Soprano). The number of parts may be omitted if not specified.

...

GUIDELINES FOR APPLYING CONTENT DESIGNATORS

...

Special cases

Arrangements are coded for the medium of the work being described, not for the original medium.

...

If the performer plays more than one instrument in a composition, the code for the first named instrument is given. If a principal instrument can be determined, the code for that instrument is given.

For percussion music, whether for a single performer or more than one, the code for the number of performers is given, rather than for the number of instruments.

For monologues, or works with narration, the code for unspecified voice (vn) is given for the speaker or narrator.

Medium of Performance – Problems

Problems with developing a medium of performance ontology based on MARC data conversion

Unclear Relationships

- Relationship with FRBR Work, FRBR Expression, and FRBR Manifestation as instructed in content standards such as AACR2, RDA, MARC, and UNIMARC
- “Original” ↔ “derivative” (arrangement, reduction, piano/vocal scores, alternative, etc.)
- Instrumentation ↔ Parts ↔ Performers ↔ Number of Hands

Unclear Constructs

- “Principal” instrument ↔ instrumental doubling
- Ensembles ↔ “Generic Instruments” ↔ Instruments/Voices
- When to apply other specific attributes such as tessitura and key

MARC Encoding

- Dependence on field adjacency

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Medium of Performance – RDA

6.15.1.3

...

Exception

If the term *percussion* is used (see [6.15.1.11](#)).

EXAMPLE

percussion (3 players)

6.15.1.4

Instrumental Music Intended for One Performer to a Part

For instrumental music intended for one performer to a part, record each instrument by applying the instructions at [6.15.1.5](#) and [6.15.1.11](#).

Exceptions

If there is more than one percussion instrument, and the names of the individual instruments are not specified by the composer in the original title, use *percussion*.

...

6.15.1.5.4

Doubling Instruments

Record the names of doubling instruments.

... record the *instruments* based on the *part*
... but sometimes don't record all the instruments

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Medium of Performance – MARC

048 - Number of Musical Instruments or Voices Code (R)

MARC 21 Bibliographic - Full October 2006

Subfield Codes

\$a - Performer or ensemble (R)
\$b - Soloist (R)

\$2 - Source of code (NR)
\$8 - Field link and sequence number (R)

First Indicator

Undefined
- Undefined

Second Indicator

Source of code
- MARC code
7 - Source specified in subfield \$2

FIELD DEFINITION AND SCOPE

Two-character code that indicates the medium of performance for a musical composition. Also contains the *number* of parts, indicated by a two-digit number immediately following the code. For example, va02, a two-part composition for Voices - Soprano). The number of parts may be omitted.

...

**... record the *number of parts*
... but sometimes record the
*number of performers***

GUIDELINES FOR APPLYING CONTENT DESIGNATION

...

Special cases

Arrangements are coded for the medium of the work being described, not for the original medium.

...

If the performer plays more than one instrument in a composition, the code for the first named instrument is given. If a principal instrument can be determined, the code for that instrument is given.

For percussion music, whether for a single performer or more than one, the code for the number of performers is given, rather than for the number of instruments.

For monologues, or works with narration, the code for unspecified voice (vn) is given for the speaker or narrator.

Medium of Performance – RDA

6.15.1.5.1

Number of Hands

For one instrument, specify the number of hands if other than two.

EXAMPLE

piano, 1 hand
harpsichord, 4 hands
viola, 4 hands



**How many performers?
Which hands go on which piano?**

For two or more keyboard or mallet (marimba, vibraphone, xylophone, etc.) instruments, specify the number of hands if other than two per instrument.

EXAMPLE

pianos (2), 6 hands
pianos (2), 8 hands
marimbas (2), 8 hands
but
organs (2)

Medium of Performance – Problems

Problems with developing a medium of performance ontology based on MARC data conversion

Unclear Relationships

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- Instrumentation ↔ Parts ↔ Performers ↔ Number of Hands

Unclear Constructs

- “Principal” instrument ↔ instrumental doubling
- Ensembles ↔ “Generic Instruments” ↔ Instruments/Voices
- When to apply other specific attributes such as tessitura and key

MARC Encoding

- Dependence on field adjacency

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Medium of Performance – RDA

6.15.1.3

...

Exception

If the term *percussion* is used (see [6.15.1.4](#)), record the number of performers if the instrument is the same.

EXAMPLE

percussion (3 players)

**Record the generic instrument
... i.e. do not record all the instruments**

6.15.1.4

Instrumental Music Intended for One Performer to a Part

For instrumental music intended for one performer to a part, record each instrument by applying the instructions at [6.15.1.5](#) and [6.15.1.11](#).

Exceptions

If there is more than one percussion instrument, and the names of the individual instruments are not specified by the composer in the original title, use *percussion*.

...

6.15.1.5.4

Doubling Instruments

Record the names of doubling instruments.

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Medium of Performance – RDA

6.15.1.4


Instrumental Music Intended for One Performer to a Part

For instrumental music intended for one performer to a part, record each instrument by applying the instructions at [6.15.1.5](#) and [6.15.1.11](#).

Exceptions

...

If the medium includes instruments acting as an accompanying ensemble, record a term for the accompanying ensemble (see [6.15.1.6](#)).



Record the ensemble
... i.e. do not record all the instruments

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6.15.1.6

Accompanying Ensembles with One Performer to a Part

For an accompanying ensemble with one performer to a part, record the appropriate term for the instrument or family of instruments followed by the word *ensemble*.

EXAMPLE

guitar ensemble
string ensemble
percussion ensemble

... alternatively, record all the instruments

Record *instrument ensemble* for an accompanying ensemble with one performer to a part consisting of instruments from two or more families of instruments when a more specific term is not available.

Alternative

For an accompanying ensemble with one performer to a part, record the appropriate term for each instrument of the accompanying ensemble instead of the name of the ensemble.

EXAMPLE

violins (2)
viola
cello

Resource described: Concerto for flute with string quartet / Jerome Moross

trumpets (2)
horn
trombone
tuba

Resource described: Piano concerto no. 2 In F major for piano and brass quintet / Peter Schickele

Medium of Performance – RDA

6.15.1.7

Instrumental Music for Orchestra, String Orchestra, or Band

For instrumental music intended for orchestra, string orchestra, or band, record an appropriate term from the following list:

orchestra
string orchestra
band

Record *orchestra* for full or reduced orchestra.

Disregard continuo when it is part of an orchestra or string orchestra.

... but, sometimes, do not record all the instruments

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6.15.1.5.2

Pitch and Range of Instruments

If considered important for identification and access, record the designation of key in which an instrument is pitched and/or terms indicating the range of an instrument.

EXAMPLE

clarinet in A
D trumpet
tenor saxophone
alto horn

**Record the key
... optionally, do not record the key**

Optional Omission

Omit the following elements:

a) the designation of the key in which an instrument is pitched

EXAMPLE

clarinet
not clarinet in A

b) terms indicating a range (e.g., *alto*, *tenor*, *bass*).

EXAMPLE

recorder
not alto recorder
saxophone
not tenor saxophone

Medium of Performance – MARC

048 - Number of Musical Instruments or Voices Code (R)

MARC 21 Bibliographic - Full October 2006

Subfield Codes

\$a - Performer or ensemble (R)
\$b - Soloist (R)

\$2 - Source of code (NR)
\$8 - Field link and sequence number (R)

First Indicator

Undefined
- Undefined

Second Indicator

Source of code
- MARC code
7 - Source specified in subfield \$2

FIELD DEFINITION AND SCOPE

Two-character code that indicates the medium of performance for a musical composition. Also contains the *number* of parts, indicated by a two-digit number immediately following the code for the music (e.g., 01 for Soprano). The number of parts may be omitted if not specified.

...

GUIDELINES FOR APPLYING CONTENT DESIGNATORS

...

Special cases

Arrangements are coded for the medium of the work being described, not for the original medium.

...

If the performer plays more than one instrument in a composition, the code for the first named instrument is given. If a principal instrument can be determined, the code for that instrument is given.

For percussion music, whether for a single performer or more than one, the code for the number of performers is given, rather than for the number of instruments.

For monologues, or works with narration, the code for unspecified voice (vn) is given for the speaker or narrator.

**Enter code for the principal instrument
... i.e. do not record all the instruments**

Medium of Performance – Problems

Problems with developing a medium of performance ontology based on MARC data conversion

Unclear Relationships

- Relationship with FRBR Work, FRBR Expression, and FRBR Manifestation as instructed in content standards such as AACR2, RDA, MARC, and UNIMARC
- “Original” ↔ “derivative” (arrangement, reduction, piano/vocal scores, alternative, etc.)
- Instrumentation ↔ Parts ↔ Performers ↔ Number of Hands

Unclear Constructs

- “Principal” instrument ↔ instrumental doubling
- Ensembles ↔ “Generic Instruments” ↔ Instruments/Voices
- When to apply other specific attributes such as tessitura and key

MARC Encoding

- Dependence on field adjacency

**Still looking
for solutions...**

Medium of Performance – UNIMARC 146

146 CODED DATA FIELD: MEDIUM OF PERFORMANCE

Field definition

This field gives details of the instruments and/or voices, devices and other performers which make up a musical work.

...

Indicators

Indicator 1: original or arrangement

...

Indicator 2: alternative medium of performance

(also possible to indicate alternative for an individual medium using code *c* in *\$b* to *\$f* position 8)

Notes on field contents

The order and occurrence of subfields is to some extent mandatory:

- at least one subfield \$c or \$d is mandatory if field is present;
- a subfield \$b may occur only if at least one subfield \$c or \$d is entered;
- a subfield \$e may occur only if at least one subfield \$d is entered;
- a subfield \$e may immediately follow only a subfield \$d, \$e or \$f;
- a subfield \$f may occur only if at least one subfield \$c or \$e is entered;
- a subfield \$f may immediately follow only a subfield \$c, \$e or \$f.

Separate accounting of instruments and performers

Global and individual designation of alternative/derive relationships

Complex set of field adjacency rules

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Medium of Performance – Problems

Problems with developing a medium of performance ontology based on UNIMARC 146

Unclear Relationships

- Relationship with FRBR Work, FRBR Expression, and FRBR Manifestation as instructed in content standards such as AACR2, RDA, MARC, and UNIMARC
- “Original” ↔ “derivative” (arrangement, reduction, piano/vocal scores, alternative, etc.)
- Instrumentation ↔ Parts ↔ Performers ↔ Number of Hands

Unclear Constructs

- “Principal” instrument ↔ instrumental doubling
- Ensembles ↔ “Generic Instruments” ↔ Instruments/Voices
- When to apply other specific attributes such as tessitura and key

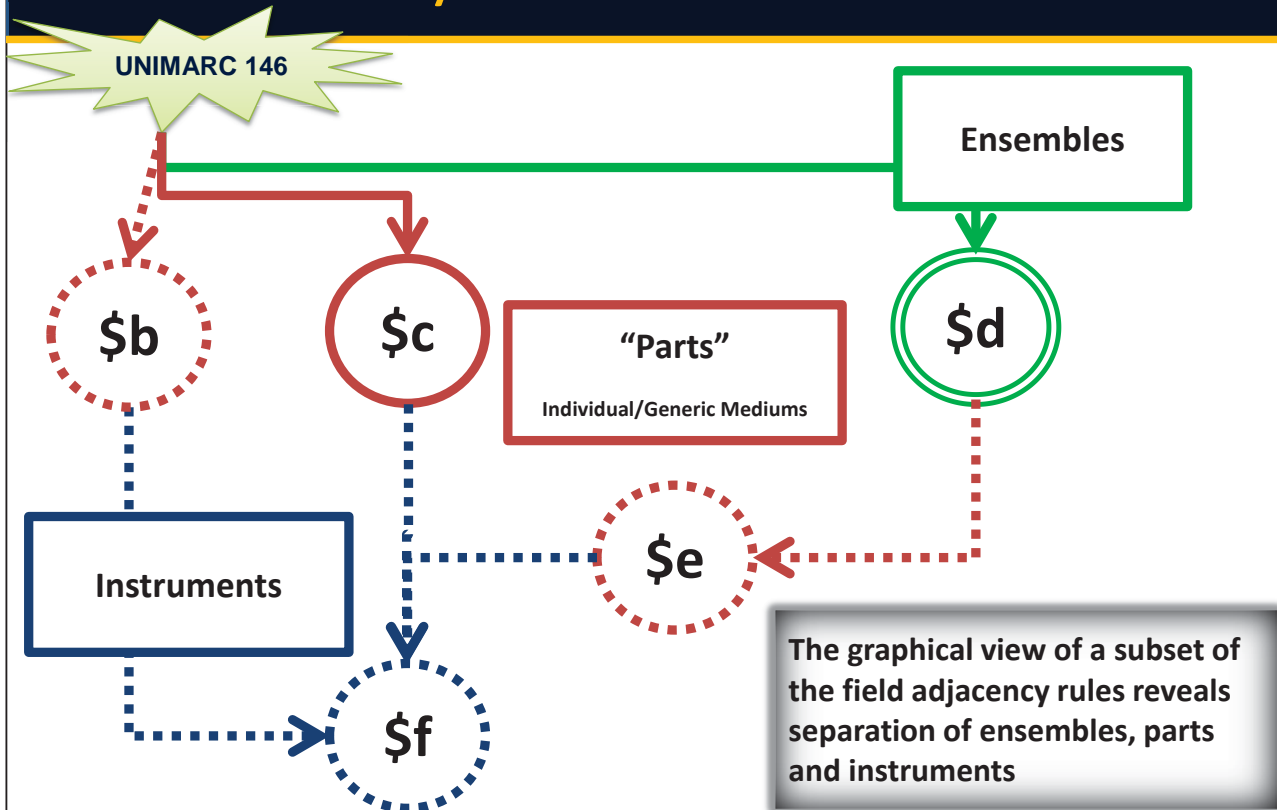
MARC Encoding

- Dependence on field adjacency

UNIMARC 146 solves some of the problems

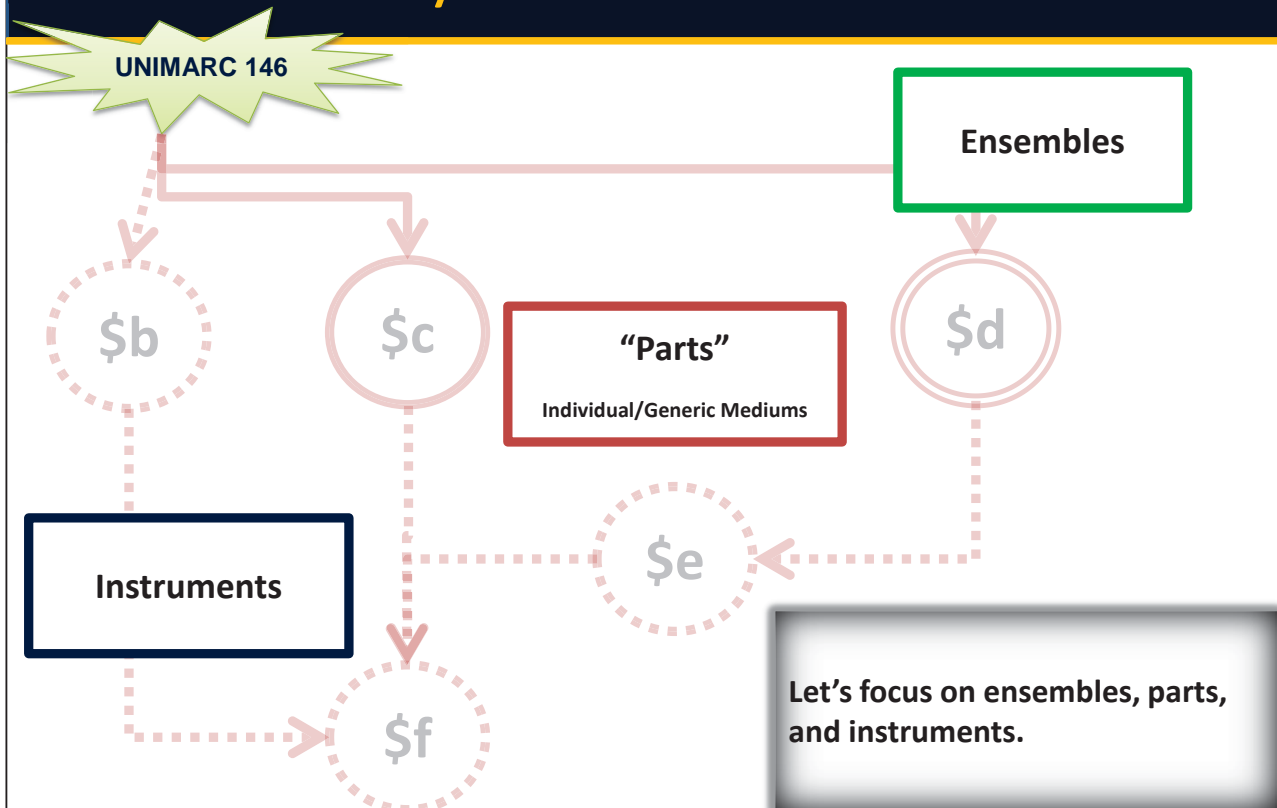
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Analysis of UNIMARC 146



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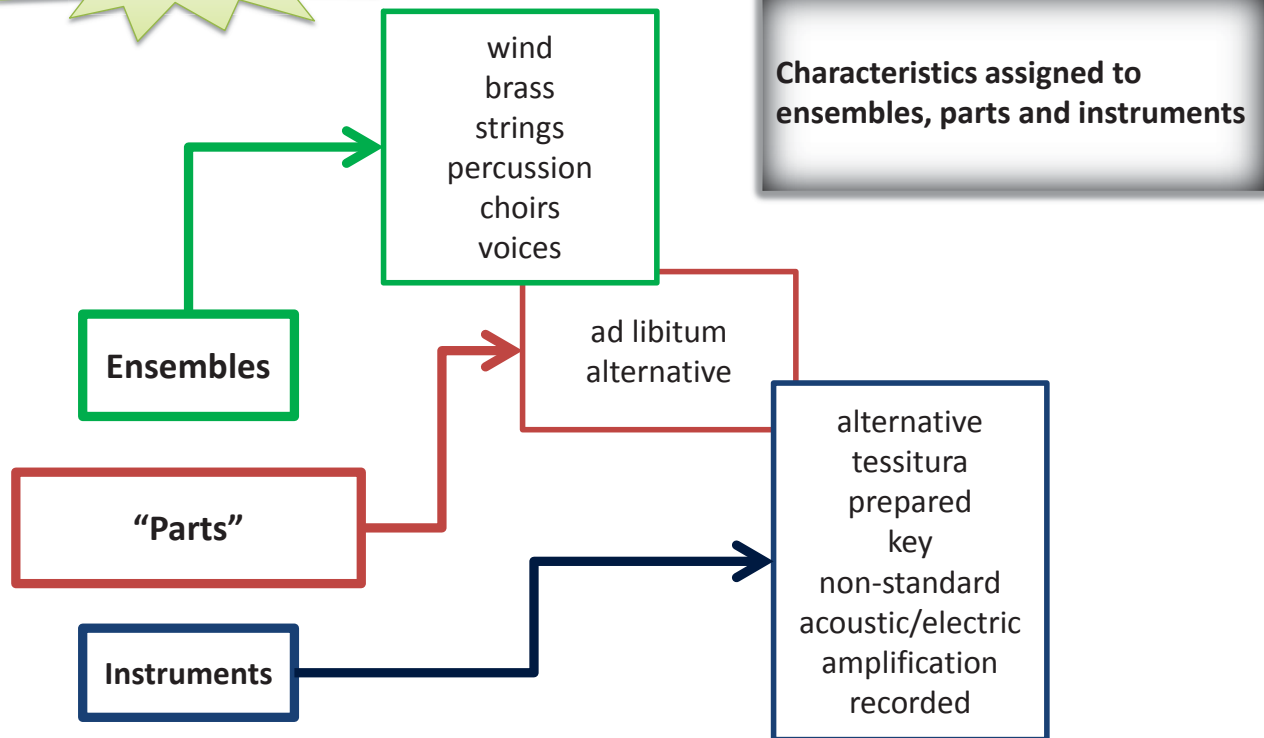
Analysis of UNIMARC 146



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Analysis of UNIMARC 146

UNIMARC 146

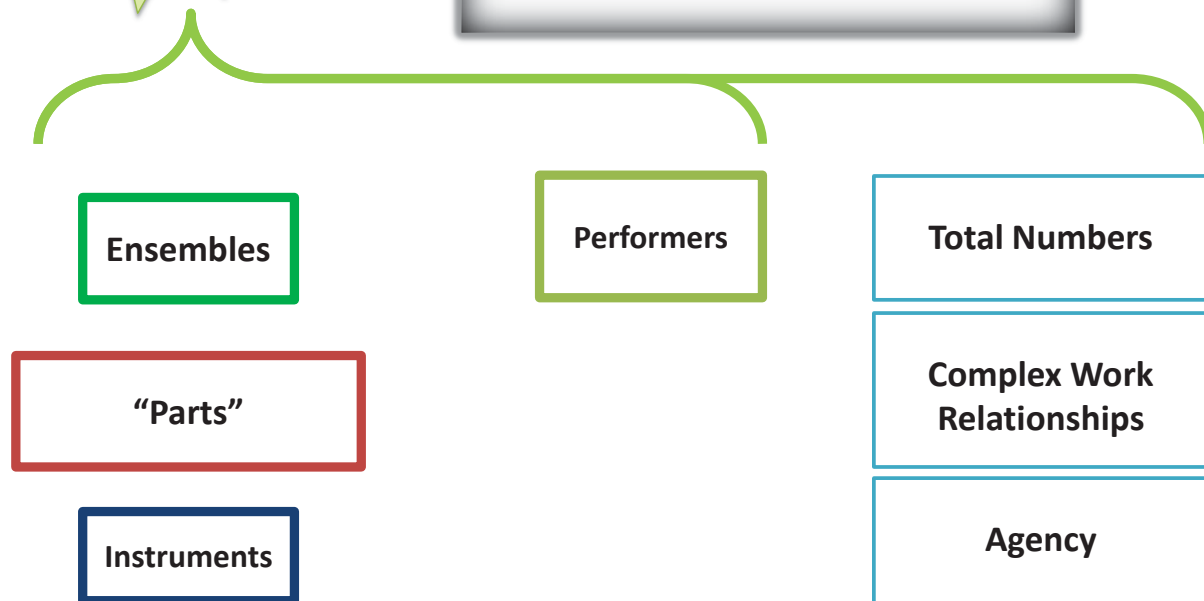


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Extending UNIMARC 146 for Linked Data

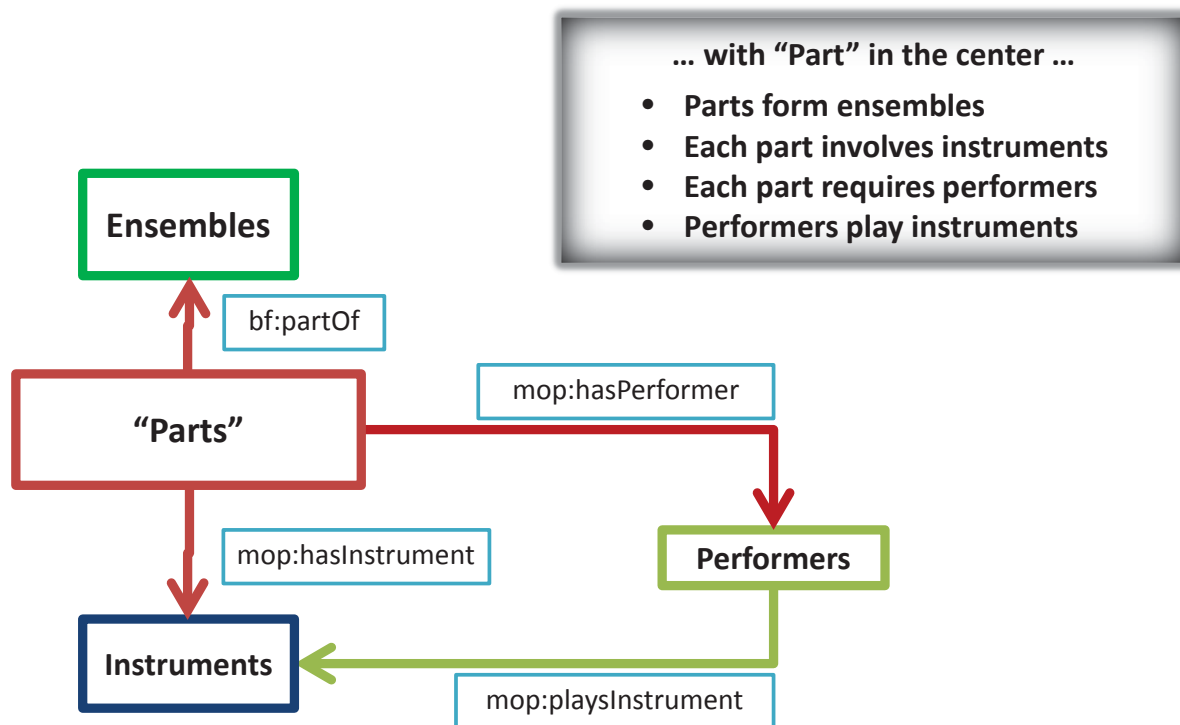
Medium of Performance

A more generalized linked data view



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Beyond 146 - Centering on “PART”



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Medium of Performance – Properties

Properties		
Use with	Property	Expected Value
bf:Work	bf:musicMedium	mop:MediumOfPerformance
bf:Instance	bf:musicMedium	mop:MediumOfPerformance
mop:MediumOfPerformance	mop:mediumOfPerformance	mop:MediumOfPerformance

Translating the graph to a (hypothetical) properties list ...

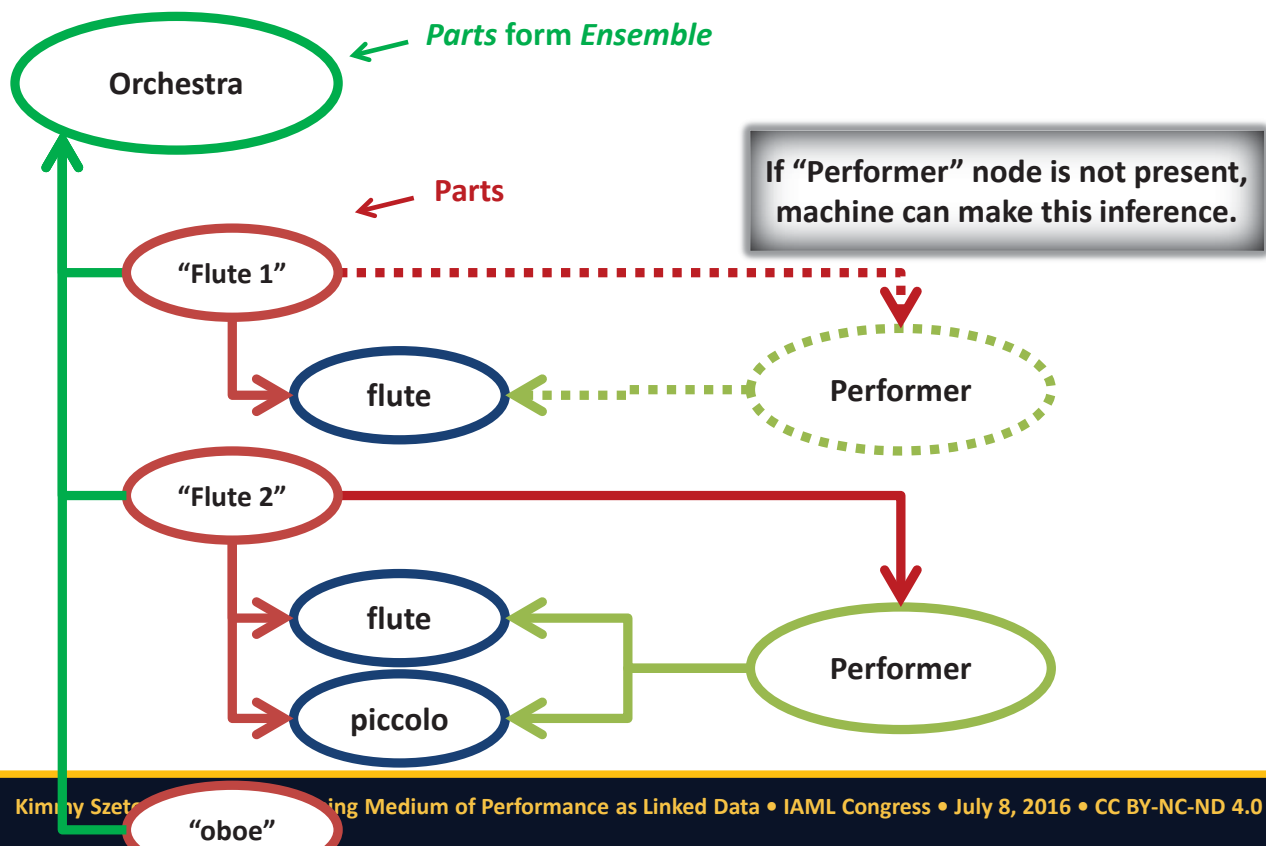
		This blank node might be needed depending on how the BF hook works out.
mop:MediumOfPerformance	mop:hasAlternative	mop:MediumOfPerformance
mop:MediumOfPerformance	mop:isAlternativeTo	mop:MediumOfPerformance
mop:MediumOfPerformance	bf:agent	bf:Agent
mop:MediumOfPerformance	mop:totalNumberOfEnsembles	xs:integer
mop:MediumOfPerformance	mop:totalNumberOfParts	xs:integer
mop:MediumOfPerformance	mop:totalNumberOfInstruments	xs:integer
mop:MediumOfPerformance	mop:totalNumberOfPerformers	xs:integer
mop:MediumOfPerformance	mop:mpHasPart	mop:MPPart

mop:MediumOfPerformance	mop:mpHasPart	mop:MPPart
mop:MPPart	bf:partOf	mop:MPEnsemble
mop:MPPart	mop:hasInstrument	mop:MPInstrument
mop:MPPart	mop:hasPerformer	mop:MPPerformer
mop:MPPart	mop:isAdLib	xs:boolean
mop:MPPart	mop:hasAlternative	mop:MPPart
mop:MPPart	mop:isAlternativeOf	mop:MPPart
mop:MPPart	bf:derivativeOf	mop:MPPart
mop:MPPart	mop:hasPerformer	mop:MPPerformer
mop:MPEnsemble	mop:hasEnsembleType	literal or a future class
mop:MPInstrument	mop:hasAlternative	mop:MPInstrument
mop:MPInstrument	mop:isAlternativeOf	mop:MPInstrument
mop:MPInstrument	mop:mpTessitura	literal
mop:MPInstrument	mop:mpKey	literal
mop:MPInstrument	mop:mpElectrical	literal
mop:MPInstrument	mop:mpEthnicity	literal
mop:MPPerformer	mop:mpHands	xs:integer
mop:MPPerformer	mop:mpOther	literal
mop:MPPerformer	mop:playsInstrument	mop:MPInstrument

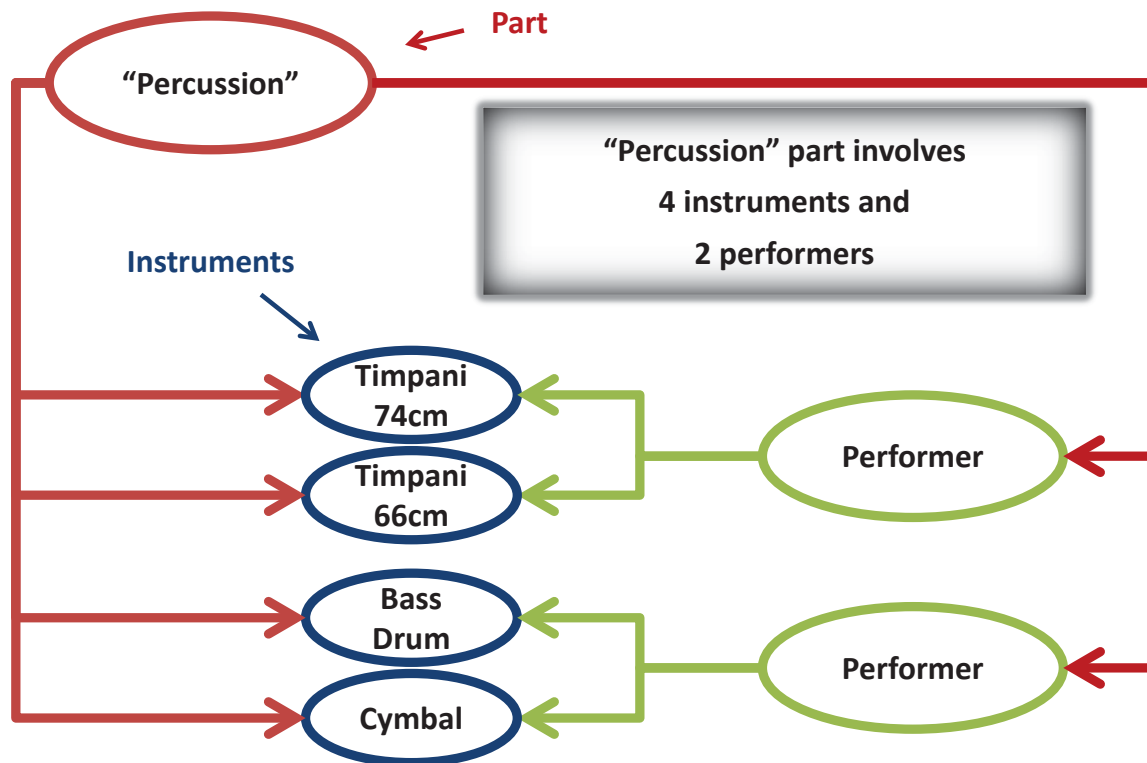
Kimmy

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Medium of Performance – Example

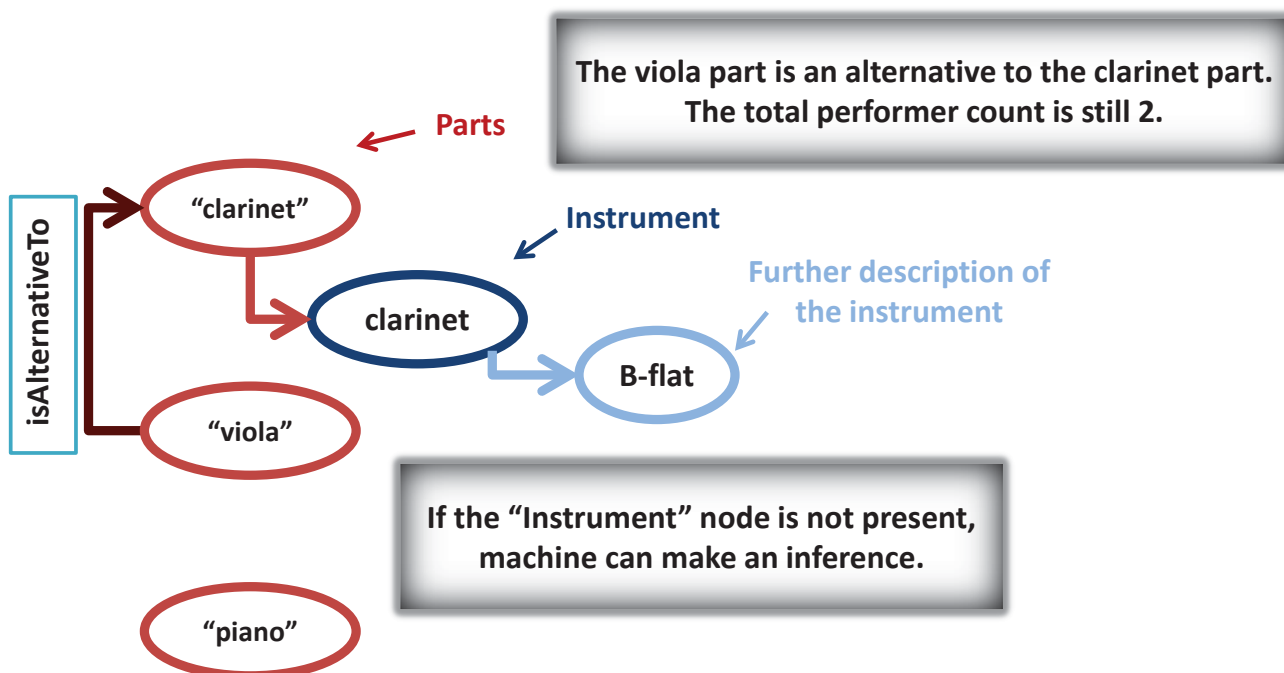


Medium of Performance – Example



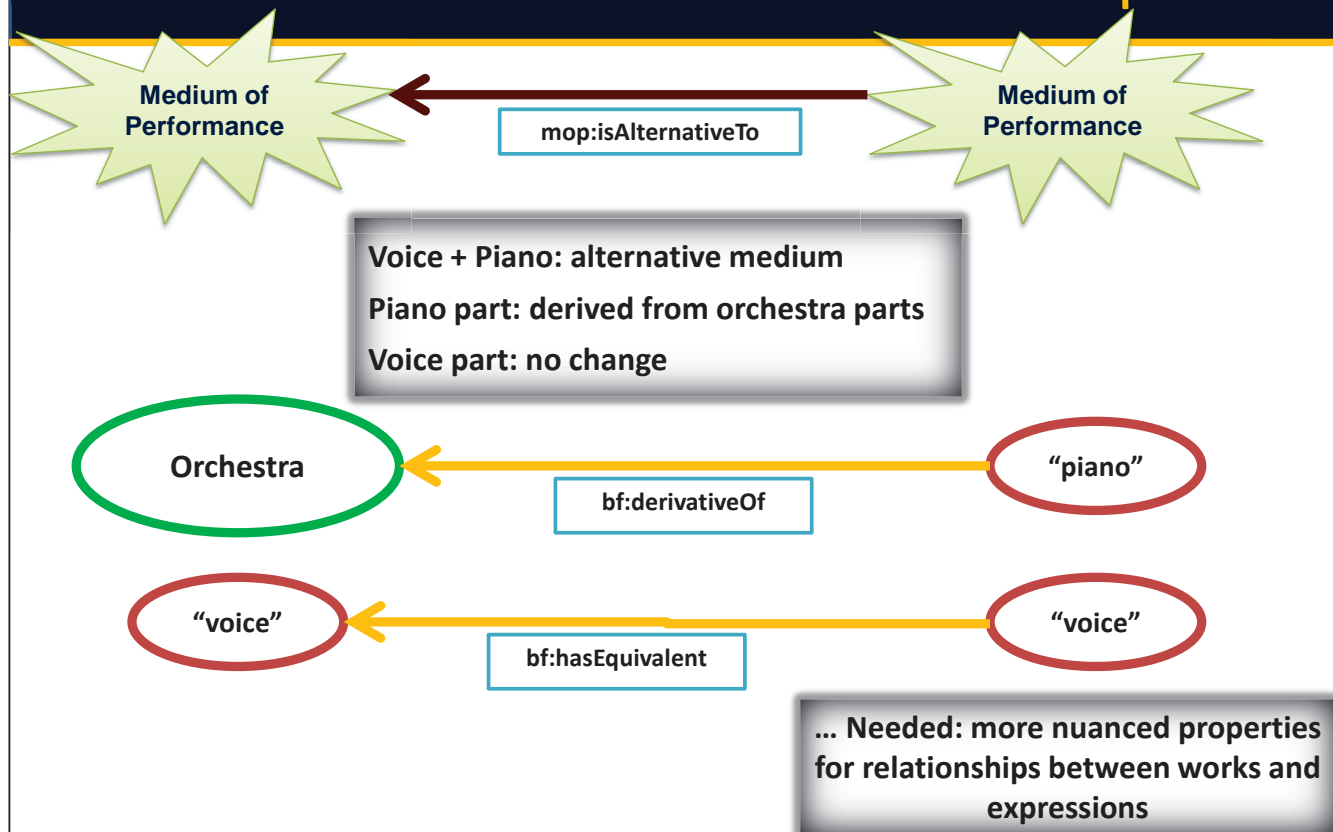
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Medium of Performance – Example



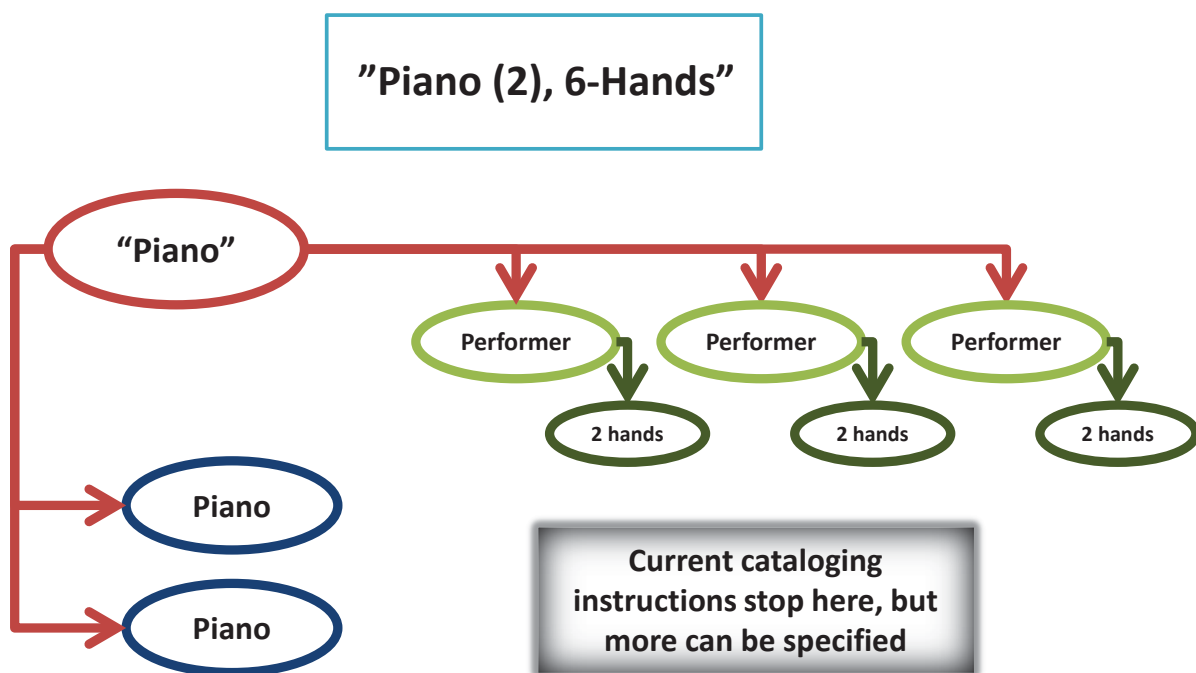
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Medium of Performance – Example



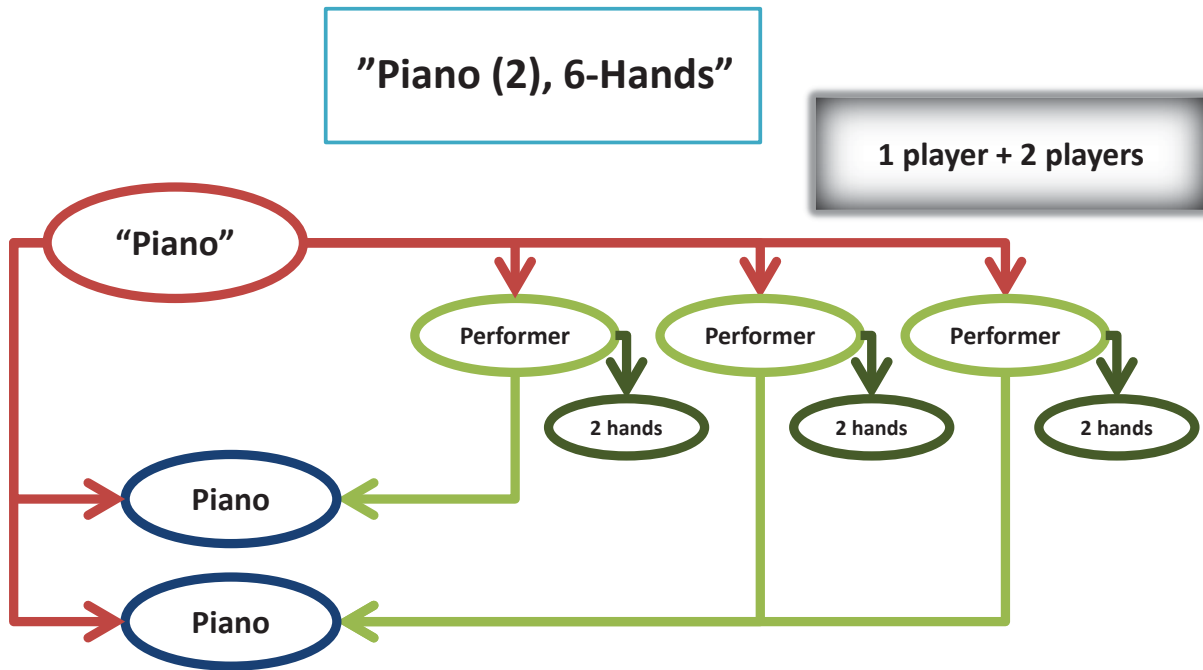
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Medium of Performance – Example



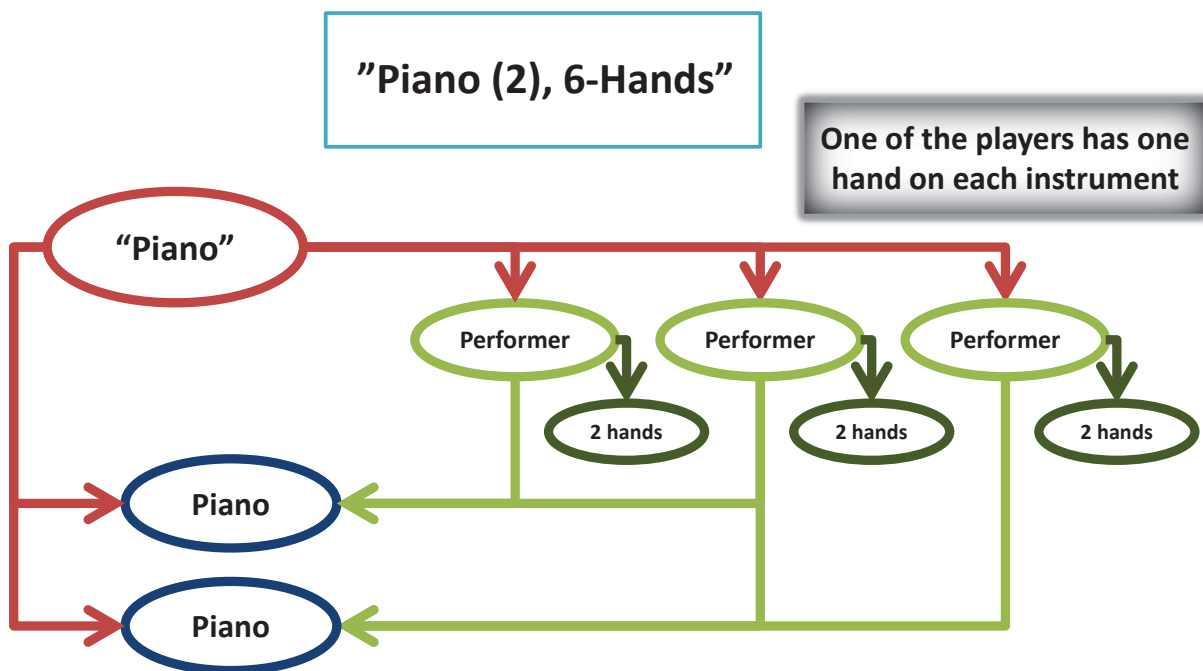
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Medium of Performance – Example



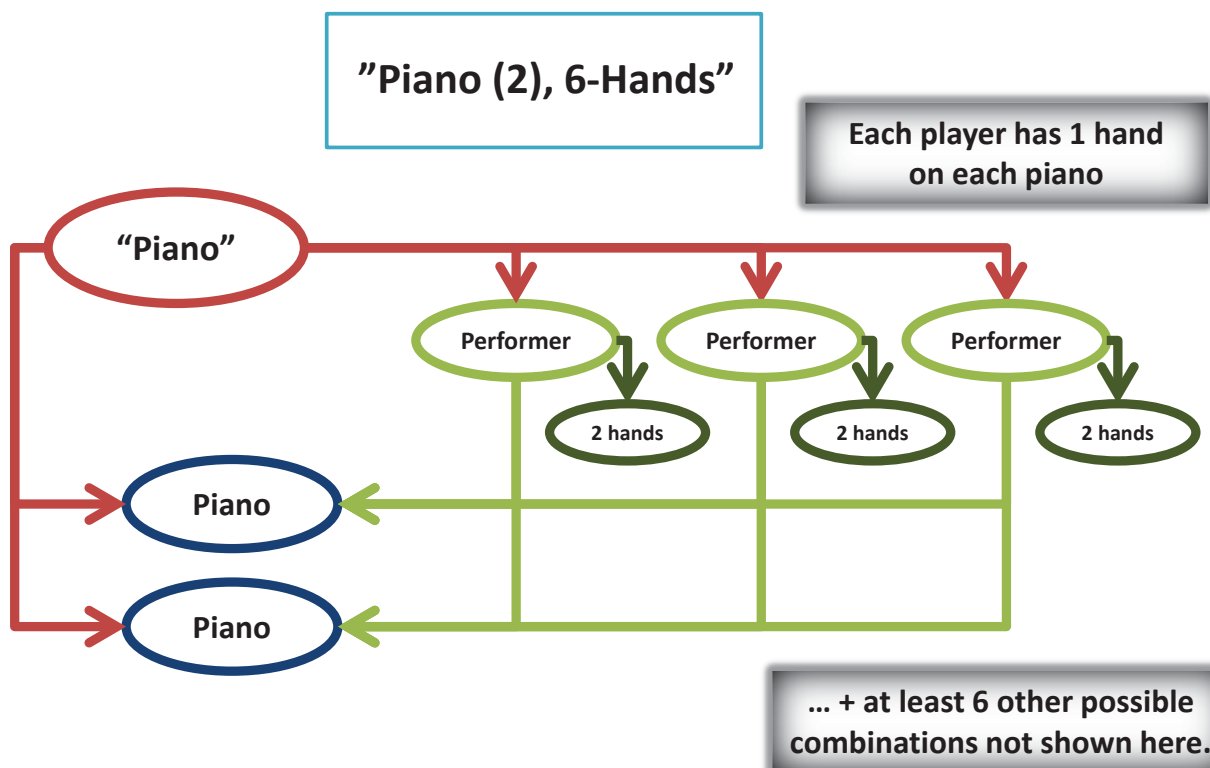
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Medium of Performance – Example



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Medium of Performance – Example



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Medium of Performance – Solutions

Problems solved by an ontology involving “part,” “performer” and “instrument”

Unclear Relationships

- Relationship with FRBR Work, FRBR Expression, and FRBR Manifestation is instructed in content standards such as AACR2, RDA, MARC, and UNIMARC
- “Original” ↔ “derivative” (arrangement, reduction, piano/vocal scores, alternative, etc.)
- Instrumentation ↔ Parts ↔ Performers ↔ Number of Hands

Unclear Constructs

- “Principal” instrument ↔ instrumental doubling
- Ensembles ↔ “Generic Instruments” ↔ Instruments/Voices
- When to apply other specific attributes such as tessitura and key

MARC Encoding

- Dependence on field adjacency

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Medium of Performance

Further Questions

Medium of Performance: Property of Work? of Expression? of what?

Need to re-examine definitions and scopes in cataloging rules

Does popular music have medium of performance?

What is the primary artifact to compare alternatives against?

How to treat deliberate, incidental, and accidental alternatives?

What are some more nuanced alternative/derivation relationships?

Version of? Arrangement of? Derivative of? Reduction of? Piano/Vocal score of? Realized figured bass of?

What about song versions with slightly/very different words?

How finely can we / do we want to draw the distinctions?