

Hierarchical objects in audiovisual archives

1. Rodolphe Bailly, Cité de la musique
2. Cité de la musique leads the programming of 2 major concert Halls in Paris (Cité de la musique concert Hall and Salle Pleyel). Cité de la musique also holds a Museum (the Music Museum), an educational department, and a Library. The Library leads many digital cultural heritage projects at national and international level.
3. **Domain : audio-visual archives.**

Specific example of audio-visual archive: recording of a concert.

At the Cité de la musique, a concert recording is documented as a hierarchy of records. The first, top level record describes the "concert". It contains general information about the recording of the concert itself, such as title, date, location and the most important performers and composers. The other records describe the "constituents" of the concert, i.e. the musical works performed during the concert. Each of these constituent, situated at a lower level of the hierarchy, contains detailed information about the performed musical works (for instance the complete list of performers). If needed, each of the performed musical work record may also have constituent records, such as specific parts in a symphony.

This hierarchical structure allows for the following:

- Better description through accurate linking to other entities at every level of the hierarchy, such as:
 - o Link to other document related to the concert (Program note Scan distributed during the concert / Description of Event) [top-level].
 - o Generic work descriptions (FRBR like) [low-level]
 - o Named entities [top level and low-level]
- Access to specific part of the recording with the ability to play the other parts if needed. A player with the ability to play the whole concert (all the performed works in the right order), or a single work inside the concert, or even a single part of a work.
- Possibility to apply different cc licenses to each of the parts. Some parts of the concert may have been forbidden to be released on the Internet following an artist request

We have decided to limit the hierarchy to 3 levels, for musical reasons as well as economic / ergonomic / interface reasons.

The following figure (Fig1) shows the properties needed to describe such a hierarchy. "isPartOf" is used to describe which thing is part of a thing, and "isNextInSequence" is used to describe in which order things should be presented.

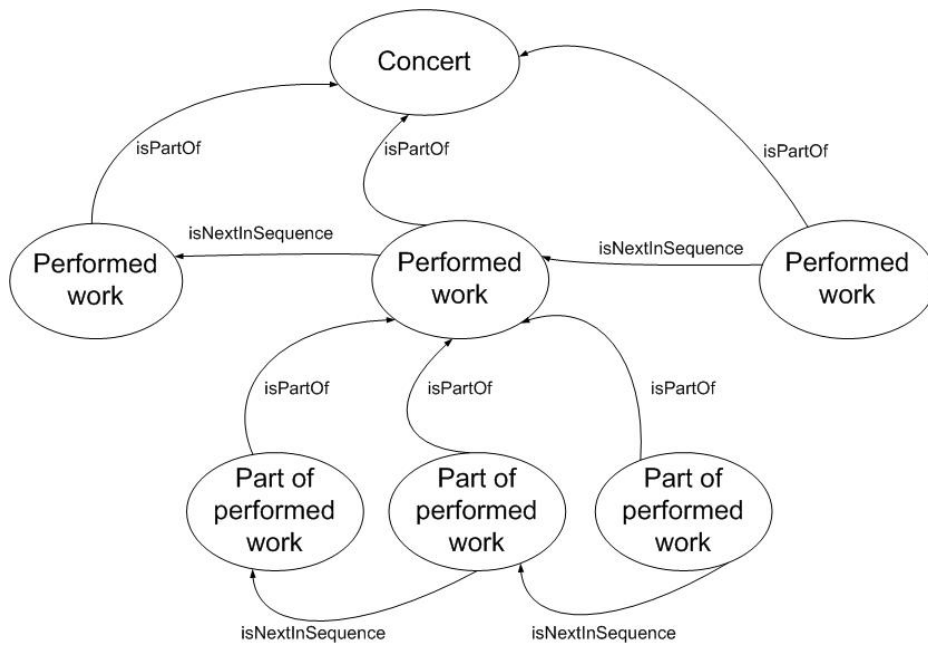



Fig1: Properties needed to represent a concert recording hierarchy

4. Use Case Scenario

The first example is the following audio recording, available through Europeana:

<http://www.europeana.eu/portal/record/03707/1EF79AFF232F37E3F20B178FA514CB74BD856AFA.html>



Orchestre philharmonique de Radio-France

Alternative Title: concert enregistré à la Cité de la musique le lundi 24 mars 2003 (Salle des concerts)

Contributor: Chung, Myung-Whun ; Orchestre Philharmonique de Radio-France

Type: [sound recording-musical](#) | >

Subject: [19 EME SIECLE](#) | > [20 EME SIECLE](#) | >

Relation: Concerto pour piano nr.4 en sol majeur Op.58 / Ludwig van Beethoven ; Lars Vogt, piano ; Myung-Whun Chung, direction ; Orchestre philharmonique de Radio-France. - Cité de la musique, 2003 ; Nocturne en do# mineur KK IVa Nr.16 (Rappel) / Frédéric Chopin ; Lars Vogt, piano. - Cité de la musique, 2003 ; Le Sacre du printemps / Igor Stravinsky ; Myung-Whun Chung, direction ; Orchestre philharmonique de Radio-France. - Cité de la musique, 2003 ; Danse hongroise nr.1 / Johannes Brahms ; Myung-Whun Chung, direction ; Orchestre philharmonique de Radio-France. - Cité de la musique, 2003

Data provider: [Cité de la musique](#) | >

Provider: [Cité de la musique](#) | > [France](#) | >

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[Cite on Wikipedia](#)

View item at [Cité de la musique](#)

Rights: Audio excerpt

Identifier: <http://mediatheque.cite-musique.fr/masc?uri=displayNotice.asp?ID=0079847>






Format: 1h 16 min 19 sec

Publisher: Paris Cité de la musique 2003 | >

Publication date: 2003

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The Europeana portal displays basic information about the concert itself (higher level of the hierarchy). You can also see the “Relation” field, containing all concert parts in one single field.

This concert recording can be represented as follow:

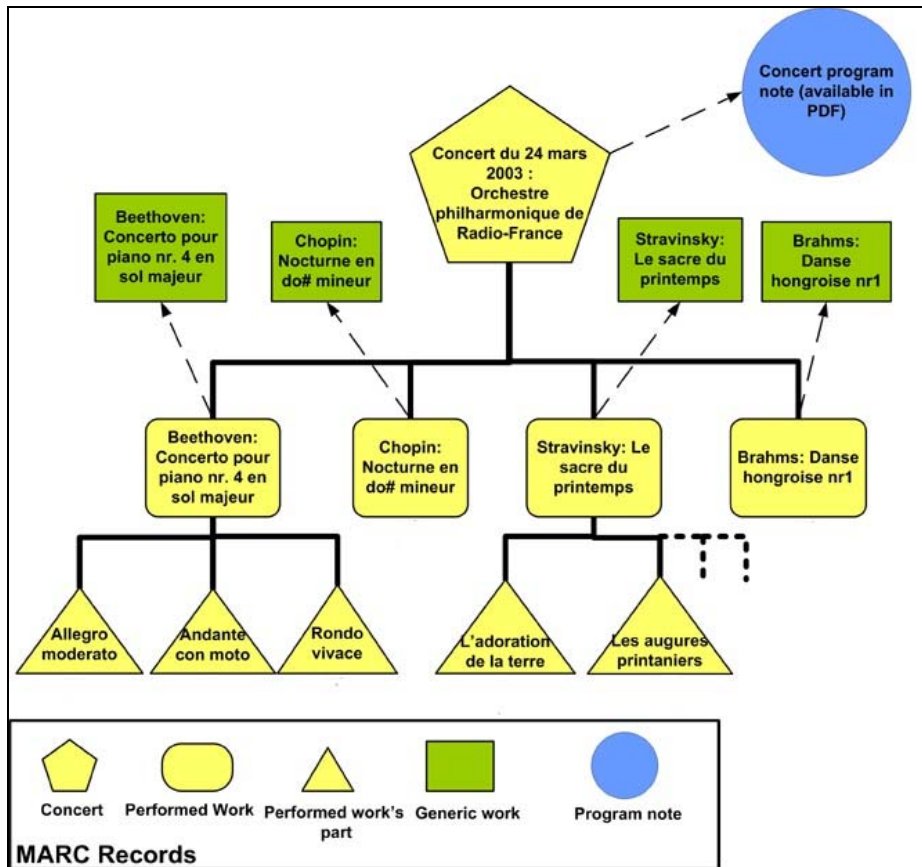


Fig.2 : Hierarchical representation of the concert record constituents

All of the yellow boxes are detailed records contained in the Cité de la musique library.

Fig.3 shows how the concert is displayed on the Cité de la musique library web site: see <http://mediatheque.cite-musique.fr/masc/play.asp?ID=0079847> (this representation is 8 years old it is then very “old fashion”)



[Ecouter le concert](#)

[Ecouter un extrait](#)

Concert

Orchestre philharmonique de Radio-France : concert enregistré à la Cité de la musique le lundi 24 mars 2003 (Salle des concerts) [Auteurs divers] ; Myung-Whun Chung, direction ; Orchestre philharmonique de Radio-France

Programme

[Concerto pour piano nr 4 en sol majeur Op.58 / Ludwig van Beethoven](#)

[Nocturne en do# mineur KK IVa Nr.16 \(Rappel\) / Frédéric Chopin](#)

[Le Sacre du printemps / Igor Stravinsky](#)

[Danse hongroise nr.1 / Johannes Brahms](#)

Durée

1h 16 min 19 sec

Editeur

Paris : Cité de la musique, 2003

Notes

Archivé à la cité de la musique ; UNI2

Auteur(s) / Interprète(s)

[Chung, Myung-Whun \(1953-...\)](#)

[Orchestre Philharmonique de Radio France](#)

Note de programme

[Orchestre philharmonique de Radio France](#)

0079847

Exemplaires

Localisation	Cote
Réserve	ARCH 2003-03-24

Orchestre philharmonique de Radio-France

Concerto pour piano nr.4 en...	Nocturne en do# mineur KK IVa...	Le Sacre du printemps	Danse hongroise nr.1
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Fig.3: A display example of the concert

The player at the bottom of the record is a representation of the concert hierarchy presented in Fig1. (a mouse-over on any of the small cases at the bottom will display the title of the corresponding sub-part).

This player is also an interface allowing users to play a specific part of the concert (clicking one of the case will play the specific part)

The dynamic rendering of the player at the bottom of the record is possible if and only if the hierarchical information (isPartOf and isNextInSequence properties as seen in figure 1) of the concert is part of the metadata.

Fig4 shows another type of representation (for a video recording) See:

<http://www.citedelamusiquelive.fr/Concert/0989253.html>

Orchestre de Paris, Kristjan Järvi, Xavier de Maistre : Carlos Chávez, Joaquín Rodrigo, Maurice Ravel, Manuel de Falla

enregistré à la salle Pleyel le 20 juin 2012

Accessible jusqu'au 20 décembre 2012

INTÉGRAL Symphonie n°2 "Sinfonia India"



INDEX

Symphonie n°2 "Sinfonia India"
Carlos Chavez

Concierto de Aranjuez (version pour harpe)
Joaquín Rodrigo

Rappel : Le carnaval de Venise (extrait)
Félix Godefroid

Rappel : L'hiver, dernier mouvement, extrait des "Quatre saisons"
Antonio Vivaldi

Alborada del gracioso
Maurice Ravel

Le tricorne, suite n°1
Manuel de Falla

Le tricorne, suite n°2
Manuel de Falla

Rappel : Danse rituelle du feu, extrait de "l'Amour sorcier"
Manuel de Falla

Fig.4 : Another "display" of the hierarchy

Here the hierarchy is represented mainly on the right of the screen. A click on one of the work will play the corresponding work.

5. Problems and limitations

Issue 1:

The lack of real metadata expressing "isNextInSequence" in the data providers' databases. As a matter of fact, this information is highly "implicit", and it is very often derived using the order of the cataloguing of the sub-parts, or through very "low-level" information such as names of files (xx_1.wav ; xx_2.wav ; etc.)

So the question here will be to either make this information mandatory for data providers, or to generate it info on-the-fly during ingestion. The mandatory constraint may not be well received by data providers, because of the potential difficulty to produce this information.

Issue 2:

There should be a digital representation available (in our case, at least an extract) for any of the part.

6. References

3 files are available with this use case:

0079847_MODS.xml : the Concert

0415432_MODS.xml : the first work of the Concert

0416807_MODS.xml : the first part of the first work of the Concert

The data provided is available through the following OAI server :

<http://194.250.19.147/scripts/oaiserver.asp?verb=getRecord&metadataPrefix=mods&identifier=cimu-aloes:0079847>

the ESE version is also available through the same server :

<http://194.250.19.147/scripts/oaiserver.asp?verb=getRecord&metadataPrefix=ese&identifier=cimu-aloes:0079847>