DOREMUS
DOing REusable MUSical data
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Hi all,

A professor at my university asked me today if I could find any music for flute and TWO bassoons – an interesting combo, to be sure. My search skills are failing me here and I’ve come up with little so far. Does anyone out there who is more knowledgeable about woodwind repertoire know of any pieces that would fit this delightfully odd chamber music combo?

Thank you!

Abby

any music for flute and TWO bassoons
Information contained in librarian knowledge but not publicly available

Hard question for current music models and ontologies

Different practical applications & usages (concert and radio programming, music recommendation, MIR)
Goals

• Improve **music description** to foster music exchange and **reuse**

• **Connect** sources, multiply usage, **enrich** user experience

• Music specific data **model**
• **Vocabularies and data** public available as Linked Open Data
• **Tools** for visualization, interconnections, recommendation
• **Experience** and praxis for other institutions
Achievements

( Work in progress )

Improve **music description** to foster music exchange and **reuse**

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Source Datasets

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**BnF | Bibliothèque nationale de France**

- **Works**: 135 940 | INTERMARC
- **Scores**: 89 184 | INTERMARC

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**radio france**

- **Works**: 62 550 | XML
- **Scores**: 9 154 | XML
- **Concerts broadcasts**: 340 609 | XML
- **Discs**: 9 500 | XML

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**Cité de la Musique | Philharmonie de Paris**

- **Works**: 6 846 | UNIMARC
- **Scores**: 30 319 | UNIMARC
- **Concerts**: 5 164 | XML
- **Discs**: 8 602 | UNIMARC
Source Datasets

- Classical music
- Jazz (including improvisation)
- Ethnic / Traditional music

How to manage this complex metadata?
State of the Art: MusicOntology

- One of the first example of describing music using Semantic Web
- Extend FRBR, Timeline Ontology, Event Ontology
- Uses vocabularies for Keys, Musical Instrument (by MusicBrainz), Genres (DBpedia)

The DOREMUS model

- Music specific extension of FRBRoo
- Triplet pattern: Work-Expression-Event
- Dynamic: every triplet is autonomous, and linkable to the other ones
- Relies on Linked Data principles (everything is an URI, RDF model)

http://data.doremus.org/ontology
Controlled Vocabularies

Alternate labels

“Sax”@en
“Saxophone”@en

Alternate languages

“Saxofone”@pt
“Sassofono”@it
“Saxophone”@fr

Notes

“English term is preferred globally”

APPLICATIONS

• Disambiguation
• Search
• Graph-based analysis

Hierarchy

“Baritone Saxophone”@en
“Woodwinds”@en
“Legni”@it
Controlled Vocabularies

**GENRES**
- Diabolo (629)
- IAML (607)
- Itema3 (212)
- Redomi (313)
- RAMEAU (654)

**Medium of performance**
- MIMO (2480)
- Itema3 (314)
- IAML (419)
- Diabolo (2117)
- RAMEAU (876)
- Redomi (179)

**Catalogues**
- 151

**Derivation types**
- 16

**Musical keys**
- 29

**Modes**
- 22

**Functions**
- ~ 30
- coming soon

[http://data.doremus.org/vocabularies](http://data.doremus.org/vocabularies)
### List of derivation links between two works

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### Mode generally refers to a type of scale, coupled with a set of characteristic melodic behaviours

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- doremus:vocabulary/derivation/revision
- doremus:vocabulary/derivation/orchestration
Interlinking: Vocabularies

http://data.doremus.org/vocabulary/iaml/genre/cha

“cha-cha-cha”

http://data.doremus.org/vocabulary/diabolo/genre/cha_cha_cha

“cha cha cha”

String matching + graph traversal

Interface for validating the matching

http://yamplusplus.lirmm.fr/
Beethoven
Ludwig van
1770-1827

Sonates Piano Op. 27, no 2
Do dièse mineur
MARC issues

• Different variants
  UNIMARC, INTERMARC

• Free text field
  different practices in describing the same information
  “Op. 27 n. 2” - “Op. 27 no 2”

• Frequent mistakes in editorial work
  wrong fields, typos, wrong punctuation
Data conversion

https://github.com/DOREMUS-ANR/marc2rdf/

- Field parsing and mapping
- NLP techniques
- Graph generation
- String2URI
Interlinking: Works

http://data.doremus.org/expression/d72301f0-0aba-3ba6-93e5-c4efbee9c6ea
“Sonata quasi una fantasia” == http://data.doremus.org/expression/22679001-2cd0-3f84-b502-0f337429966f
“Quasi una fantasia”

Legato

https://github.com/DOREMUS-ANR/legato

F-measure > 0.85
Precision > 0.87
Recall > 0.82
Visualizing

Prototype of web app that uses the DOREMUS dataset

- Follow the links like in the graph
- Enriched experience DBpedia, GeoNames, …
- Timeline of related event
- Similar works recommendation

http://overture.doremus.org
Joseph Haydn

Franz Joseph Haydn | Joseph Haydn

(Franz) Joseph Haydn (/ˈdʒɔziər/; [ˈjoːzəf ˈhajeːn]; 31 March 1732 – 31 May 1809) was a prolific Austrian composer of the Classical period. He was instrumental in the development of chamber music such as the piano trio and his contributions to musical form have earned him the epithets "Father of the Symphony" and "Father of the String Quartet". He was a friend and mentor of Mozart, a teacher of Beethoven, and the older brother of composer Michael Haydn.

To Artist Info

Similar Artists

Carl Philipp Emanuel Bach
key: D Major, C Major
genera: symphony, sonata
casting: violin, harpsichord

Ludwig van Beethoven
key: D Major, C Major
genera: symphony, sonata
casting: violin, cello

Wolfgang Amadeus Mozart
key: D Major, C Major
genera: symphony, sonata
music: C minor, symphony

Carl Friedrich Abel
key: D Major, C Major
genera: symphony, sonata
music: cello, full orchestra

Johann Christian Bach
key: D Major, C Major
genera: symphony, sonata
music: orchestra, other

Johann Pfskof
key: D Major, C Major
genera: symphony, concerto
music: orchestra, acting, cello

Antonio Soler
key: D Major, C Major
genera: symphony, sonata
music: cello, violin

The data here visualized come from the musical libraries of:

IBnF, Bibliothèque nationale de France
Radio France

OVERTURE lives inside the SHAREMUS project for describing, publishing, connecting and contextualizing music catalogues on the web of data.

ABOUT CREDITS
Future Work

• Pivot Vocabularies of Genres and MoPs as result of the interconnection task

• Converting Performances and Manifestations

• Schema.org injection in all pages goals: SEO optimization, simplification of the data in order to extend their usage

• Recommendation System first step: “Combining Music Specific Embeddings for Computing Artist Similarity” @ISMIR2017
 Raphael Pichon et l'Ensemble Pygmalion interprètent Bach - III

concert enregistré à la Philharmonie de Paris (Salle des concerts - ORF de la musique) le 11 décembre 2017

En intégralité pendant 18 JOURS

Le live commence dans 7 jours 9 heures 28 minutes 7 secondes

25
But what about this?

Abbey Thompson

[MLA-L] Flute + two bassoons?
A: MLA-L (mla-l@indiana.edu)

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Thank you!

Abbey

Abbey Thompson, MA, MLS
Music Librarian, Assistant Professor
Music Building Room 175
Northern Illinois University
1425 West Lincoln Hwy.
This and more questions:
<table>
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<tr>
<td>&quot;Elliott Carter&quot;</td>
<td>&quot;Holiday overture&quot;</td>
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<td>&quot;Arrangements&quot;</td>
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<td>&quot;Concertos&quot;&amp;fr</td>
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<td>&quot;Francisco Guerrero&quot;</td>
<td>&quot;Coma Berenices&quot;&amp;es</td>
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<td>&quot;Vincenzo Bellini&quot;</td>
<td>&quot;Puritani&quot;</td>
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Links

**DOREMUS Website**
http://www.doremus.org/

**GitHub page**
with tools, converters, ontologies, ...
https://github.com/DOREMUS-ANR/

**Data Access Point**
http://data.doremus.org

Most of the slides from this presentation cc-by Pasquale Lisena