

Tutorial on Linked Data and Music Encodings

We present a one-day tutorial on interlinking music encodings and external music datasets through the use of linked data (RDF) and MEI 4.0. During the session, we will provide a high-level overview of linked data and semantic web technologies, briefly covering their history and purpose, some terminology, and their application to digital musicology. We will take a closer look at some real-life examples, and get hands-on experience with exercises in interlinking, querying, and annotating various datasets (e.g., RISM, SLICKMEM, DOREMUS). The course is aimed at beginners, with no previous knowledge of semantic web technologies required.

Note that applications of Linked Data concepts introduced in this tutorial will be presented in the workshop on “*Quotable Musical Text in a Digital Age*”. Organizers of the two workshops plan to have the two sessions meet jointly for the last two hours of the workshop day. During the joint meeting we will discuss the lessons learned, encounter some real-world applications of the concepts discussed, and set the stage for the future collaborations. These are long-range priorities for many of us, and we will continue the discussion both during the MEI conference itself, and through our usual modes of collaboration.

Duration

The tutorial will run for the full pre-conference workshop day at MEC 2019.

Motivation

Through its header section, the MEI schema provides for the encoding of metadata descriptions of bibliographic facets, work descriptions, and encoding provenance. This association of description and musical encoding within a single source file is often convenient; however, it also poses certain limitations, for instance when such descriptions accumulate over time, must express mutually-inconsistent interpretations (as in cases of scholarly dispute), or describe atypical information facets that provide an uncomfortable fit for the existing header fields.

Using the Resource Description Framework (RDF), we can lift such descriptions out of the encoding structure, separating them into semantic layers of linked data. Descriptions within these layers remain anchored to the music encoding by reference to (identified elements of) the MEI structure, but can also refer to any other relevant information on the Web, enabling the interlinking of score encodings, multimodal musical resources, and extra-musical information. RDF descriptions adhere to an “open-world assumption”, meaning that they are allowed, indeed expected, to accumulate over time; they can be published in decentralised fashion by different authors with full provenance, enabling differing viewpoints to be expressed; and, they exhibit a mutable schema capable of incorporating atypical information facets without technical conflicts.

Together, these qualities greatly increase the flexibility and expressiveness of music encoding metadata.

Target audience

We aim to impart information relevant to researchers, librarians, practitioners, and software developers with an interest in unified querying and exploration of complementary music datasets published on the Web.

Topic listing and provisional itinerary

Introduction: FRBR, the MEI header, and the Music Ontology

Coffee break

RDF: URIs, Triples, and Turtle

Lunch break

Querying linked data: SPARQL and the DOREMUS dataset

Interlinking datasets: Authority files and entity reconciliation

Coffee break

Pulling it together: Metadata, score images, and encodings

Examples of Real-World applications (Joint session, *Quotable Musical Text* workshop)

Learning outcomes

We expect to impart a basic awareness of semantic web technologies and their affordances in digital musicology research. Although time constraints restrict the depth of detail we will be able to explore, attendees will leave with a better idea of how semantic web approaches might fit into their research, and will be equipped with sufficient vocabulary and understanding as well as an overview of existing tools, literature, and training events to independently pursue further knowledge on this topic.