MerMEId: Creating Thematic Catalogues Using MEI Metadata

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ABSTRACT

The poster is intended to demonstrate that the MEI (Music Encoding Initiative) metadata section allows the description of musical works, including their history and sources, in such detail that it can serve as the basis for entire thematic catalogues or to collect source information for use with scholarly editions of music.

The Danish Centre for Music Publication (DCM) is developing a web-based tool to facilitate capturing, editing, storing, and reviewing music metadata, called MerMEId (Metadata Editor and Repository for MEI Data). The main focus of the poster is to present the software including its architecture and user interface. The poster also outlines the results so far.

PURPOSE

The project aims at facilitating the production of detailed collections of metadata for musical works, e.g. for a the-matic catalogue of a composer's works, or for collecting and organizing source information as needed for critical editions of music.

An important requirement for MerMEId was to aim at optimal long-term storage and preservation conditions for the data achieved by:

- Platform independent data
- Non-proprietary, preferably text-based data formats
- Separation of content from presentation, also ensuring best reusability of data

The project was initiated in 2009 as part of the research at the Danish Centre for Music Publication (DCM). A first public open-source release of the MerMEId source code is scheduled for early 2013. Development will continue until at least mid-2014; further continuation will depend on the renewal of the centre's funding.

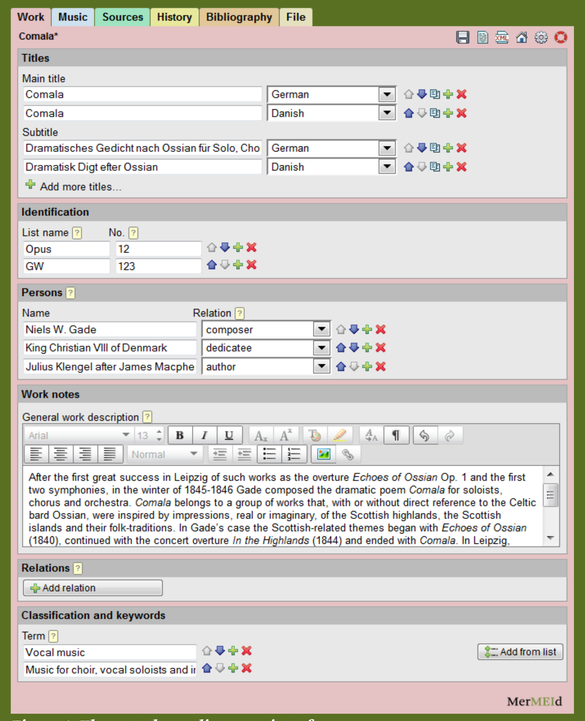

Figure 1. The metadata editor user interface

METADATA IN MEI

In an attempt to best meet the requirements mentioned above, it was decided to use the Music Encoding Initiative (MEI)[1] XML schema recommendation which was planned to support rich metadata already prior to its first official release in 2010. A format principally designed for music notation rather than a cataloguing standard was chosen because it would allow a complete encoding of the music itself to be integrated in the catalogue – all in the same data specification, i.e. without the need to link to or embed other encoding formats. Ultimately, thematic catalogues and complete editions of works based on MEI may be completely integrated [1]. Furthermore, MEI is developed specifically for scholarly use – such as critical editions – and thus aims at meeting the highest level of music notation standards.

A valid MEI file contains two main parts: the so-called 'header' (`<meiHead>`), containing music and file metadata, and the 'body' (`<music>`), containing the actual encoding of the music, if any. MerMEId acts on the header only, leaving the document's body untouched.

The main content of the header is organized within four XML elements:

`<fileDesc>`	File and source metadata
`<encodingDesc>`	Description of the project and the file's technical creation
`<workDesc>`	Metadata related to the musical work
`<revisionDesc>`	The file's revision history (log)

The most important elements for cataloguing purposes are `<fileDesc>`, including the descriptions of sources, and `<workDesc>`, containing both structural (e.g., movements and incipits) and contextual (history) information on the work.

1 http://www.music-encoding.org

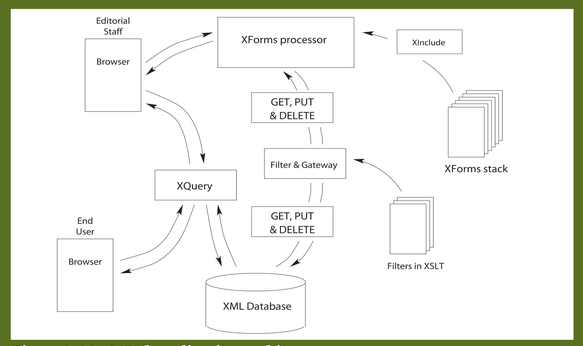

Figure 2. MerMEId application architecture

ARCHITECTURE

MerMEId is running on a Java application server. MEI data is stored in a native XML database (eXist[1]) as one file for each work. The files are edited using a web browser. The editing interface consists of a number of forms based on the XForms specification, served to the browser as javascript/XHTML forms by an Orbeon XForms[2] processor. Java servlets connecting the main components take care of pre- and post-processing data on its way to and from the editor interface.

Certain output-oriented processes are included with MerMEId and may serve as a basis for project-specific applications, such as publishing individual XML files by copying them to a production server, presenting them using the supplied XSLT and CSS style sheets, or generating ePub or PDF catalogues of works from a user-defined query.

1 http://exist-db.org
2 http://www.orbeon.com

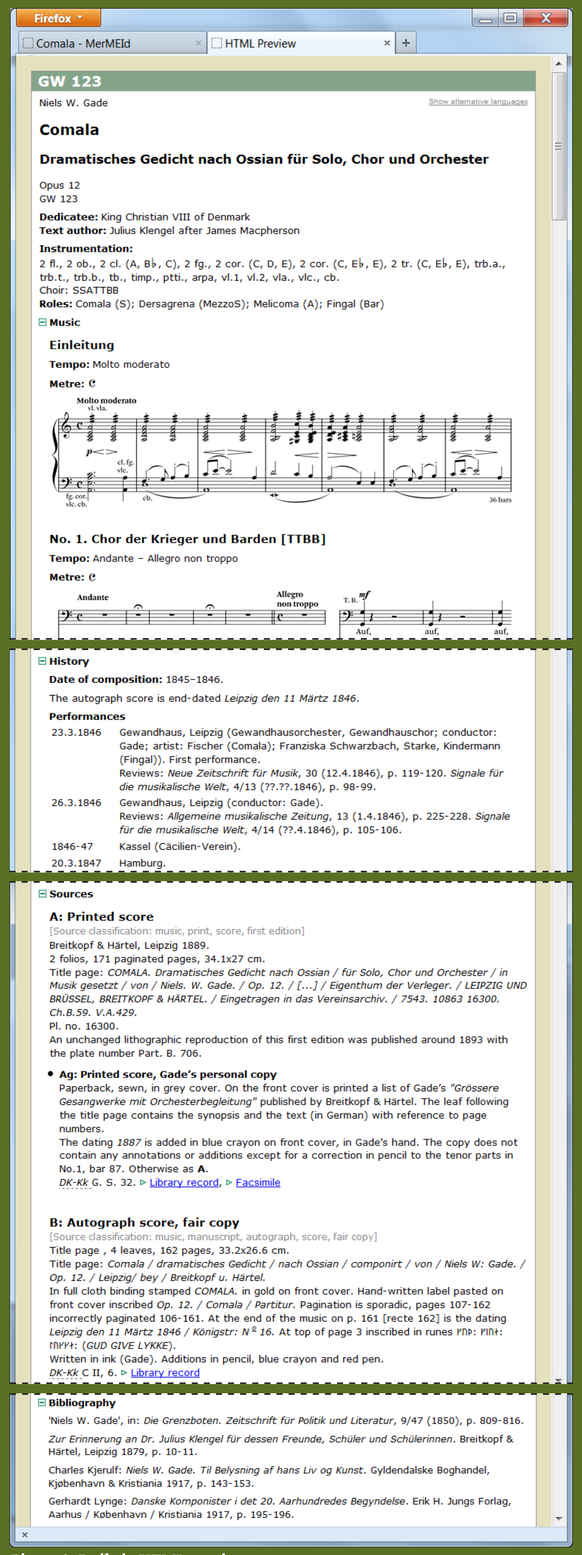

Figure 3. Built-in HTML preview

INFORMATION CAPTURED

MerMEId handles a broad range of metadata within the MEI header, including:

- Work identification: titles, subtitles, etc. in multiple languages; identifications numbers; genre classification; persons associated; relations to other works
- Work history: creation data, performances (with references to reviews) both of the work in general and of different versions
- Musical features: overall structure (acts, movements); versions; instrumentation; role descriptions; text incipit; one-line music incipit (e.g. Plaine & Easie Code); links to incipit graphics
- Sources: source classification; physical description; source components; individual copies
- Bibliography: references to letters, diary entries or other primary material; secondary literature; documentary material (e.g. announcements, concert programs)
- File metadata: imprint; series information; project description; revision history.

Furthermore, a number formatted text blocks are available for general descriptions of the work, its history, sources, etc.

OUTCOME

At the time of writing, three thematic catalogues are in preparation simultaneously at DCM, including the works of Carl Nielsen (1865–1931), J. P. E. Hartmann (1805–1900), and Johann Adolph Scheibe (1708–1776). The catalogues share the same MerMEId installation, comprising more than 1,000 entries (works).

The textual contents of the Hartmann catalogue are to be finished by mid-2013. The thematic catalogue of Nielsen's works is scheduled for publication as an online resource in progress during the second half of 2013; each work entry includes at least a list of sources, incipits, information on the date of composition, first performance, and references to the work made in the composer's letters.

The original aim at having all information encoded in MEI has not been reached yet for lack of graphical notation software and rendering mechanisms supporting MEI. So far, incipits are included as linked image files only. Whether MEI encodings rendered at run-time will at some point entirely replace incipit graphic files, or a combination of both approaches will be used, remains to be decided, depending on software available in the future.

REFERENCES

[1] A. T. Geertinger and L. Pugin: "MEI for bridging the gap between music cataloguing and digital critical edition", *Die Tonkunst*, 5/3 (2011), pp. 289–294.

The Danish Centre for Music Publication (DCM) is a research unit located at the Royal Library in Copenhagen. Established in 2009, it is financed by public and private funds. Its purpose is to produce scholarly editions of music and other sources related to Danish music history and to further develop the methods involved in establishing and communicating the results.

DANISH CENTRE FOR MUSIC PUBLICATION

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