Scherzo: A FRBR-Based Music Discovery System

Mark Notess
Indiana University, USA
mnotess@indiana.edu

Jon W. Dunn
Indiana University, USA
jwd@indiana.edu

Juliet L. Hardesty
Indiana University, USA
jlhardes@indiana.edu

Keywords: search; FRBR; evaluation; music

1. Project Background

The Scherzo music discovery system is one deliverable from the Variations/FRBR (V/FRBR) project at Indiana University (Riley, 2010). The objective of the V/FRBR project is to provide a real-world test of the Functional Requirements for Bibliographic Records (FRBR) model (IFLA, 1998) in the domain of music. In addition to creating a schema and FRBRization algorithm to populate a repository with data drawn from MARC bibliographic records, one experiment in the utility of the FRBR model has been to create a discovery system based on the FRBRized data, to explore the value of exposing FRBR structuring in the discovery interface.

2. Design and Implementation

Scherzo is a web-based discovery layer atop a FRBR-based metadata repository (see FIG. 1). Metadata were generated by running the V/FRBR FRBRization algorithm against approximately 190,000 MARC records exported from the Indiana University Libraries' catalog. The selected records represent nearly 85,000 sound recordings and 105,000 music scores held by the IU Cook Music Library. The FRBRization process attempts to identify musical works from the bibliographic records, as well as identifying the people or groups responsible for the works, their expressions, or their manifestations. The FRBRization process also takes advantage of access to authority files to enhance records with variant titles, variant names, and other authority data.

One Scherzo design objective was to leverage relationships between FRBR entities in the functioning of the interface. To that end, the advanced search capability distinguishes work authorship roles such as composer from performance or publication roles such as performer, conductor, or editor. Moreover, work titles are distinguished from manifestation titles, and works are featured in the search results in addition to manifestation records. Facets, based on the FRBRized metadata, also allow search results to be narrowed by categories such as instrumentation, creator/composer, and publication date. The design of Scherzo was also influenced by a set of use cases drawn from user data and observed experiences searching for music.

To support discovery of materials for which it was not possible to identify works, Scherzo also supports a keyword search that operates off of an index of (among other things) contents notes that are not sufficiently regularized to be parsable by the FRBRization code.

As of April 2011, the Scherzo discovery system is available for public use at http://vfrbr.info/search and Java source code will be made available later this year.

3. Evaluation

In Spring 2011, the Scherzo interface was evaluated through two methods. One was an analytical review, comparing searches in Scherzo to searches in the IU production OPAC, IUCAT. The second evaluation was a usability test with twelve participants, all music students. Both evaluations were driven by a set of realistic use cases.

Findings from these evaluations indicate that while the capability to search by authorship versus publication roles is valuable, the highlighted list of works in the search results proved confusing to participants, and the faceted FRBR relationships could be expressed differently in

the search results and offered earlier in the interface to aid discovery. Participants appreciated the ability to use facets to navigate search results. They also liked the focus on music and many asked when Scherzo would be available for use.

Recommendations for future development include: emphasizing people and their roles as aids for narrowing results, reorganizing search results to focus on recordings and scores as the main content (using facets and works as supporting information), and offering facets on Scherzo's home page. The Works section in the search results can either stay as it is in the current design with Recordings/Scores result numbers added to each work, or the Works section might best be replaced with an enhancement to the Recordings/Scores section permitting narrowing or sorting of results by Work Titles.

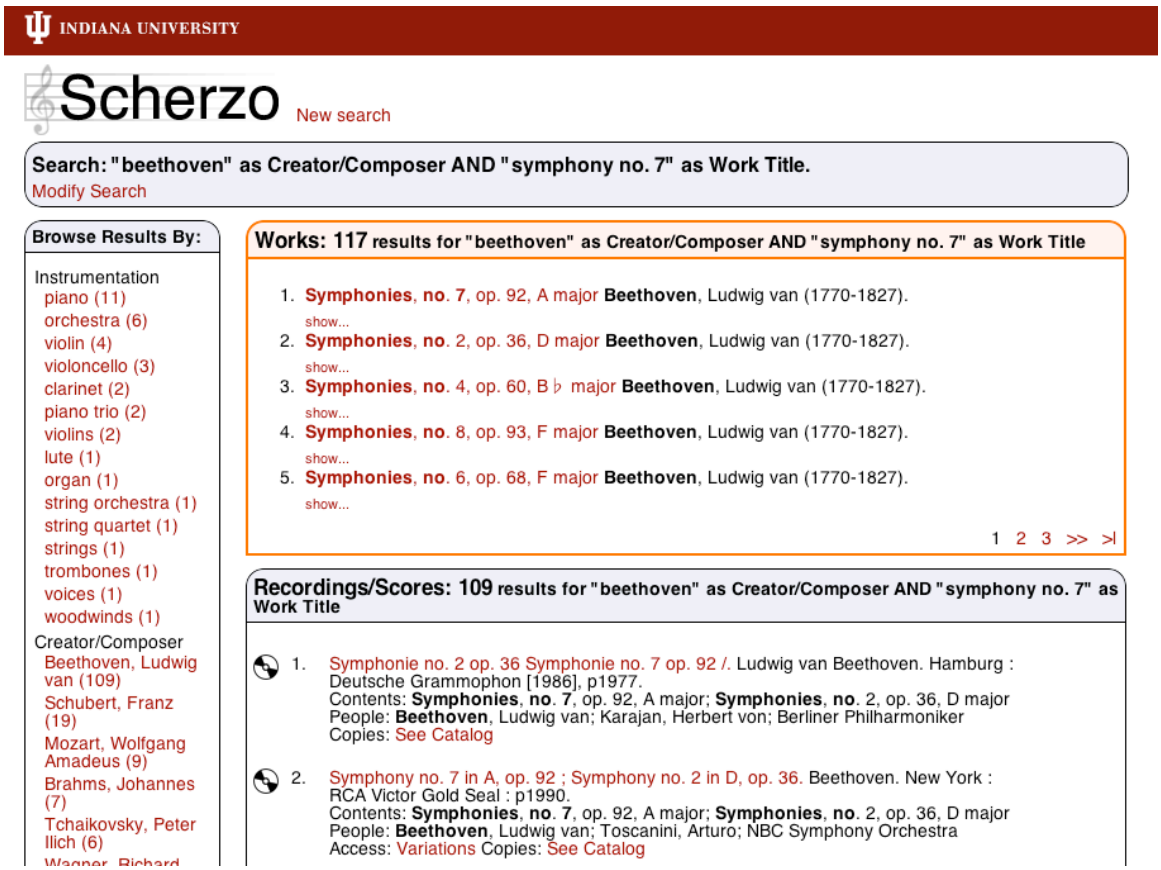

FIG. 1. Scherzo Search Results Display (April 2011 version).

Acknowledgements

Scherzo was developed by Alex Berry and Paul McElwain, based on designs from Julie Hardesty and project leadership from Jenn Riley. Anna Coogan and Steven Harris assisted Julie Hardesty with the evaluation. This project was supported in part by a grant from the Institute of Museum and Library Services. Any views, findings, conclusions or recommendations expressed in this paper do not necessarily represent those of the Institute of Museum and Library Services.

References

IFLA Study Group on the Functional Requirements for Bibliographic Records. (2009). Functional requirements for bibliographic records, final report. Retrieved January 30, 2011 from http://www.ifla.org/files/cataloguing/frbr/frbr_2008.pdf

Riley, Jenn. (2010) Enhancing interoperability of FRBR-based metadata. In Diane I. Hillman and Michael Lauruhn (Eds.), Proceedings of the International Conference on Dublin Core and Metadata Applications, DC-2010, 31-43.