

The Beethoven in the House Annotator

a Linked Data tool for annotating libraries of music editions and images

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Musicological Motivation

Without sound recording, and with public concerts often an expensive luxury – with a limited repertory – music enthusiasts of the early nineteenth century had most of their musical experience in amateur circles – primarily at home. That the highest status compositions of the developing musical canon were those for the concert hall or the opera house complicated matters for those who wanted to cultivate their musical knowledge and sophistication.

In response, the music publishing industry produced vast quantities of arrangements of large-scale works for smaller-scale use. It is through these versions that many people encountered, became familiar with, and even studied symphonies and overtures, arias and concertos. Beethoven's last string quartets, which famously went largely unperformed for decades after their composition, were quite successful sellers in the composer's own piano duet arrangement.

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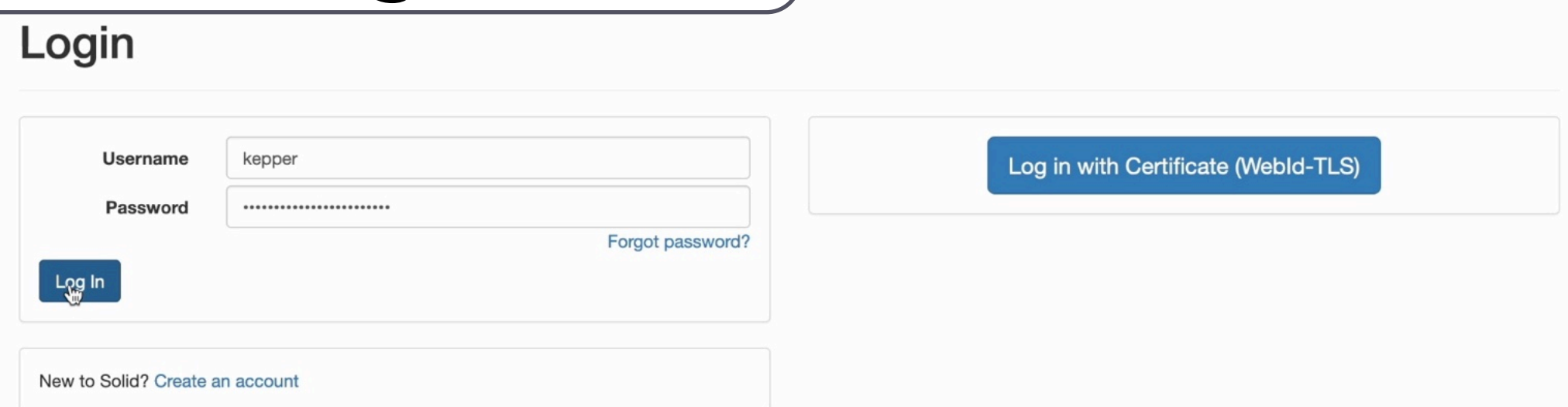
Digitisation on a mass scale by libraries and archives has made it much easier to access and research digitised source materials for geographically distributed subject matter. This greatly supports traditional research and close reading, reducing the need to travel to engage directly with primary sources and reducing the risk of damage for fragile materials.

Digitisation also allows the deployment of digital tools but, in doing so, brings to the fore the disparity between the wide availability of digitised music images and the relative paucity of machine-readable transcriptions

Working with arrangements necessarily means comparing versions of a piece. Digital tools can support the juxtaposition of materials this requires. We built a new application specifically developed to support comparing and annotating different versions of the same music.

The application supports annotation of library-published IIF images and digital scores in MEI, with a shared data model for the musical regions and annotations[1]. Users can mark passages of interest and indicate where parallel passages occur in different versions. Annotations to these passages can then be made using Web Annotations[2].

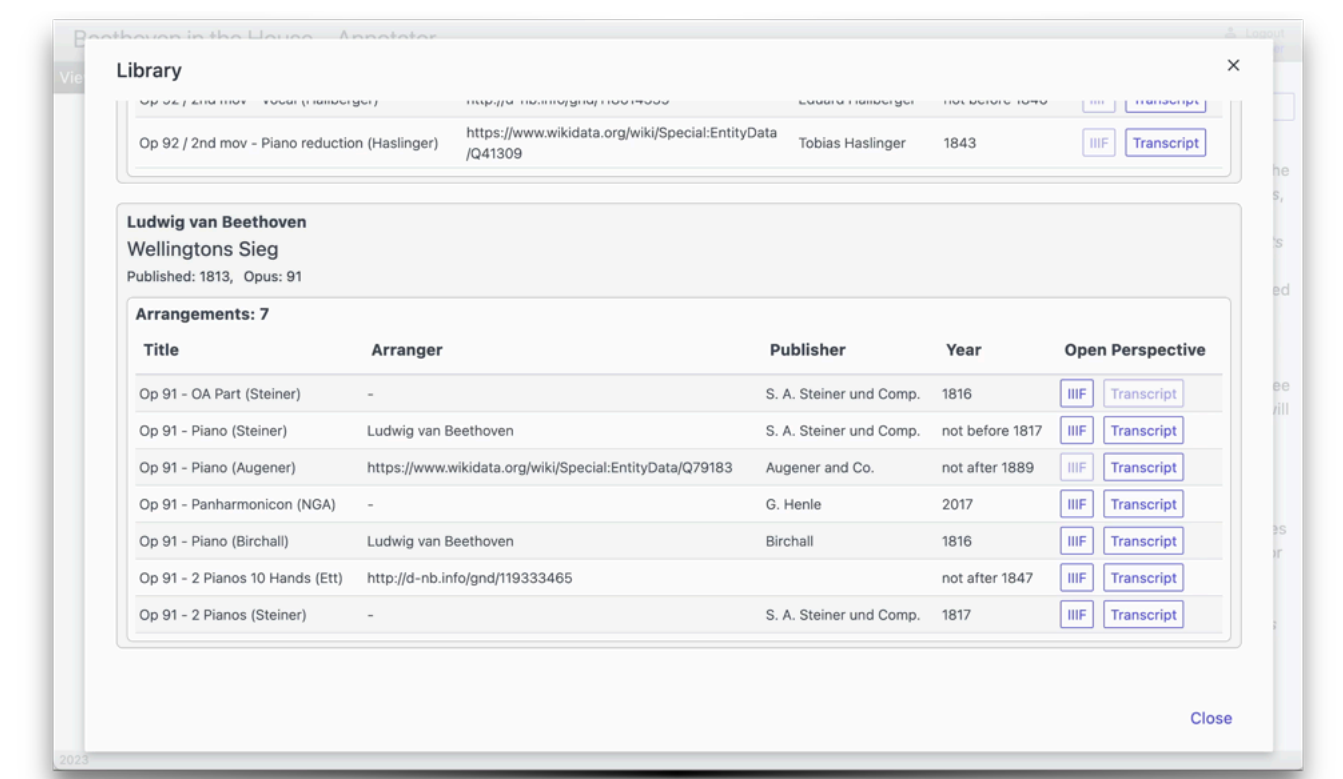
Sharing data



Researchers using the application log in to their own account with a Solid provider[3]. This gives them control of who can see any contributions or annotations that they make, making sharing between scholars easy, and independent of the software being used.

Choosing arrangements

The researcher browses lists of works and available versions of them in the **Library view**. They can choose combinations of these to transfer to their 'workbench'. These can be IIF images or MEI digital scores depending on availability.



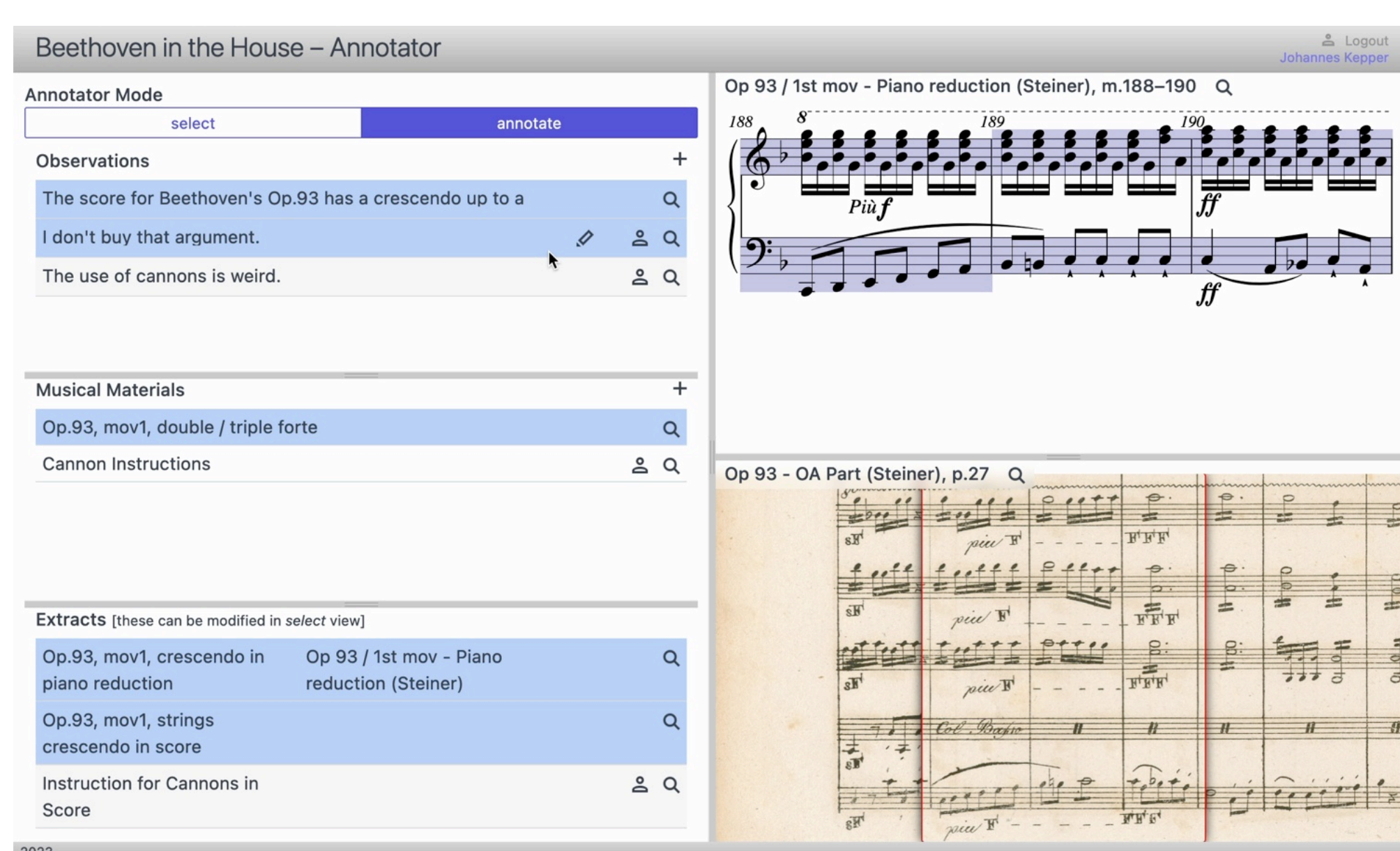
Catalogue information is retrieved as Linked Data from our own servers, but is designed to be compatible with the GND and Wikidata as data sources. It is necessary to provide the application with an initial list of works of relevance to the investigation. This then forms the basis for the MELD graph traversal tool to discover relevant information about arrangements of those works.

<https://domestic-beethoven.eu/>

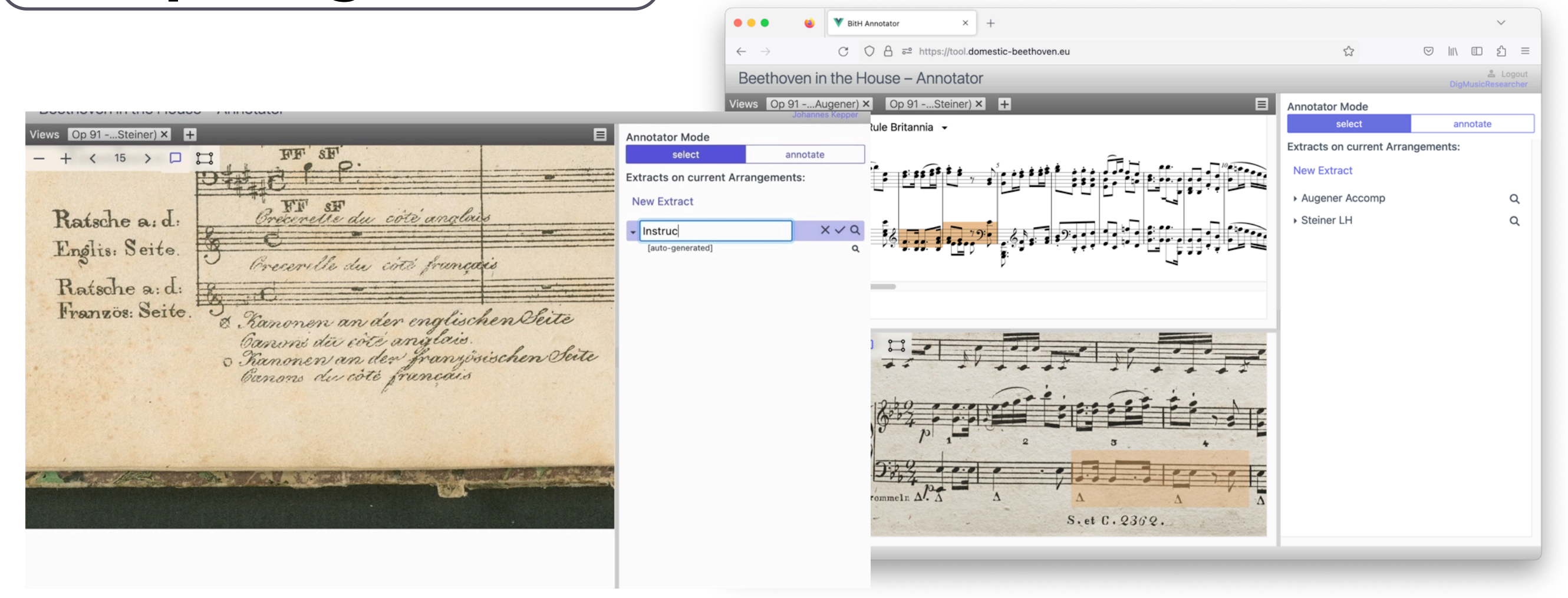
Annotating music

Observations can be recorded by making textual annotations on passages from one or several musical items. These observations are written to the researcher's own online Solid pod to be reused or published as required.

Observations may also be recorded about prior annotations, creating rich commentary structures.



Comparing versions



In the workbench, researchers can select areas of the music that are of interest. They can indicate where parallel versions of a passage exist in multiple sources and name those passages for easy reference.

These can be images or MEI. If automatic measure detection has been run in advance, and the results saved as MEI, then bar numbers are displayed on the images, and whole-measure segments can also be selected.

[1] D. Lewis, E. Shibata, M. Saccomano, L. Rosendahl, J. Kepper, A. Hankinson, C. Siegert, and K. R. Page, "A model for annotating musical versions and arrangements across multiple documents and media," in Proc. DLFm 2022, ACM, 2022, 10–18.

[2] R. Sanderson, P. Ciccarese, and B. Young, "Web annotation data model," W3C, W3C Recommendation, Feb. 2017, <https://www.w3.org/TR/2017/REC-annotation-model-20170223/>.

[3] D.M. Weigl and K.R. Page. A framework for distributed semantic annotation of musical score: "Take it to the bridge!". In Proc. ISMIR 2017, Suzhou, China, October 2017.