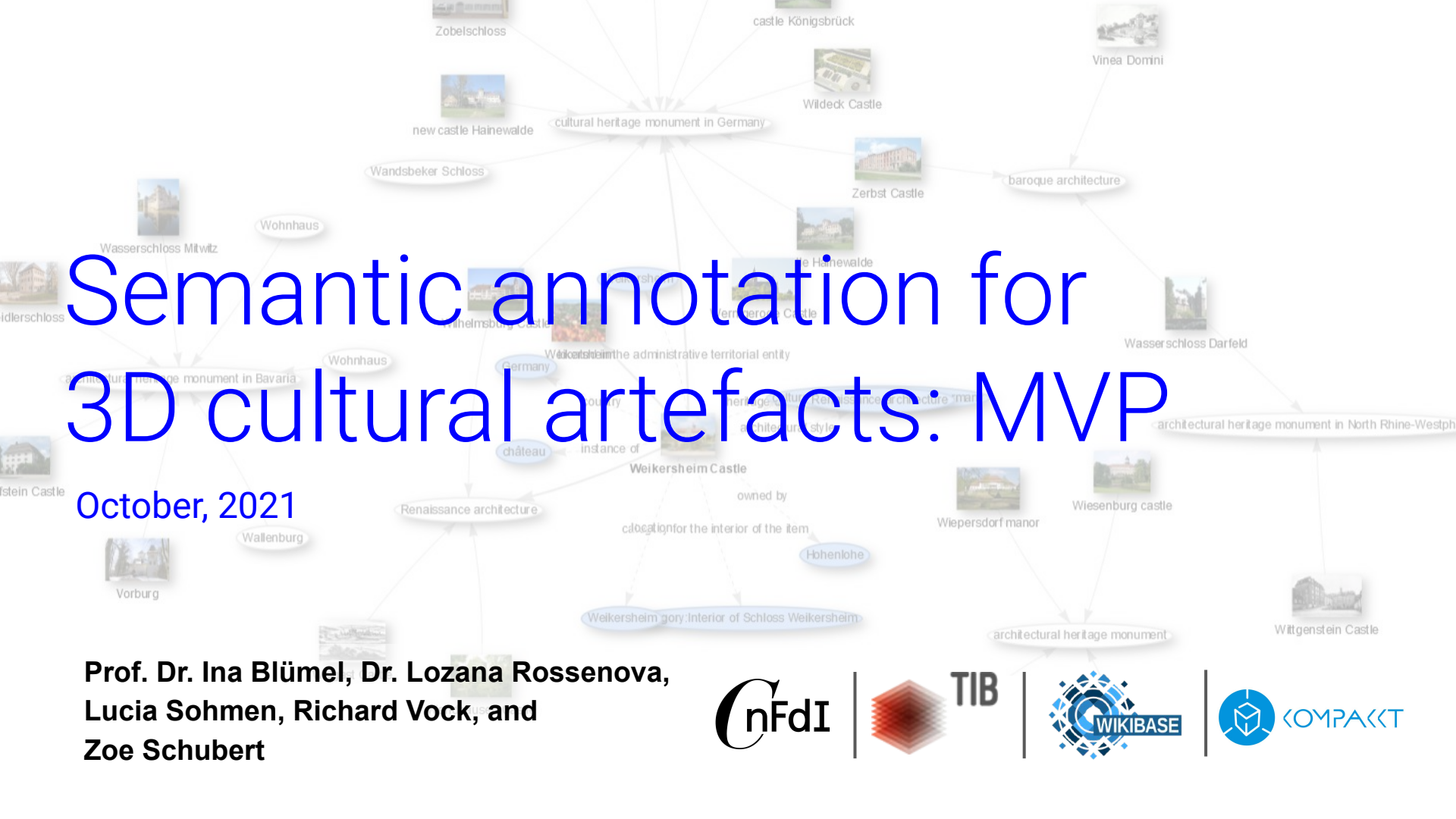
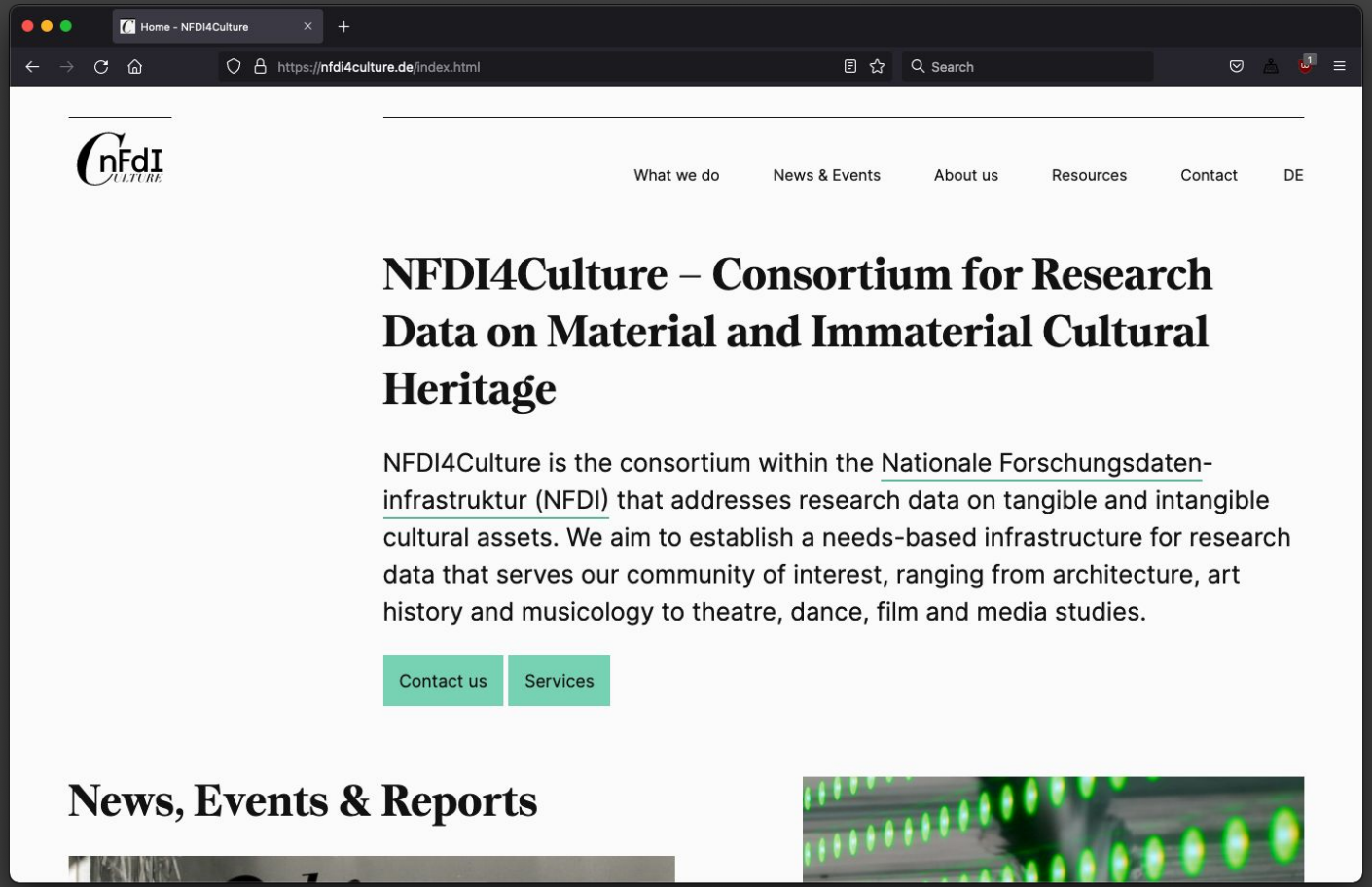


Semantic annotation for 3D cultural artefacts: MVP

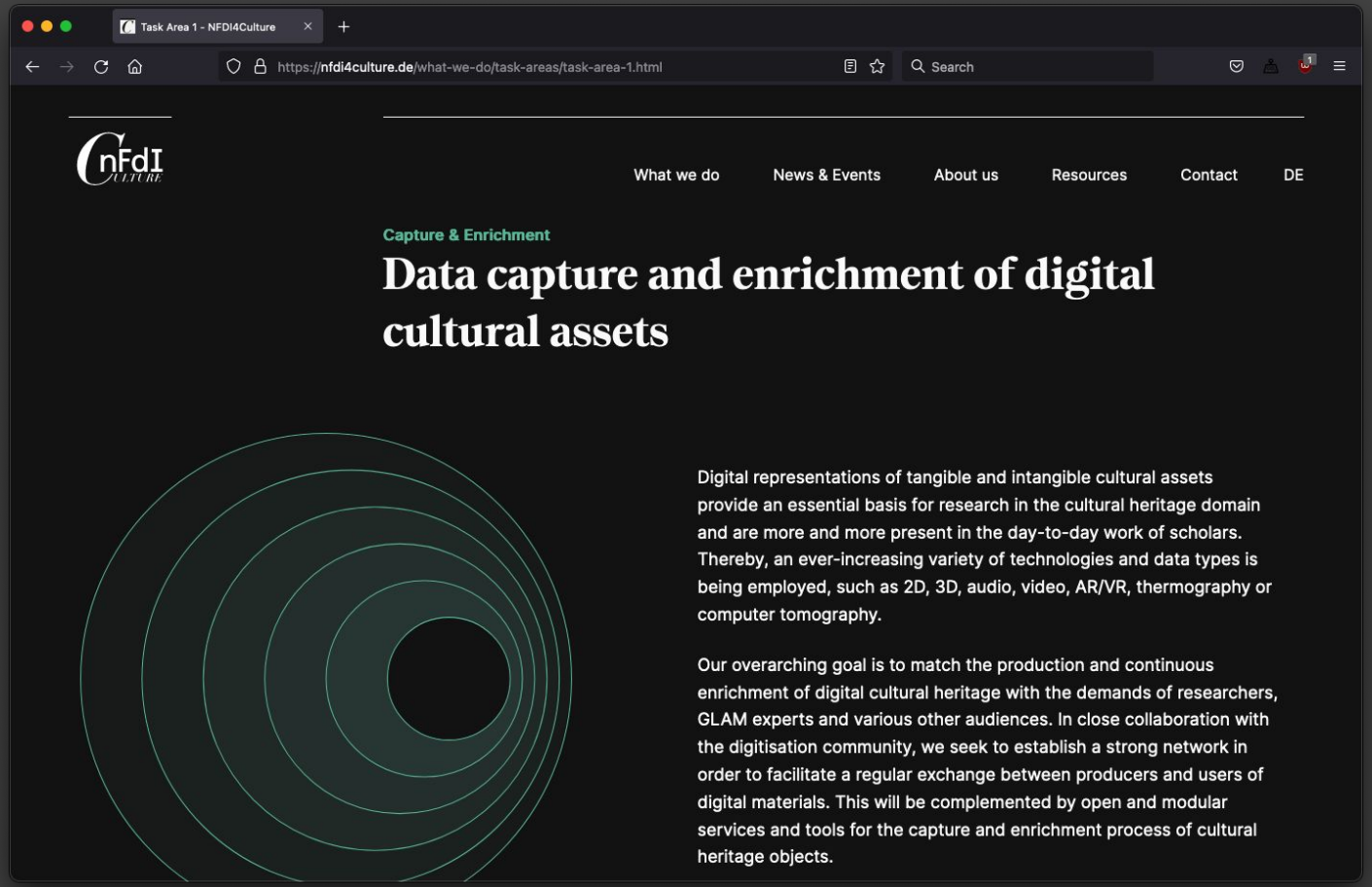
October, 2021

Prof. Dr. Ina Blümel, Dr. Lozana Rossenova, Lucia Sohmen, Richard Vock, and Zoe Schubert

NFDI4Culture

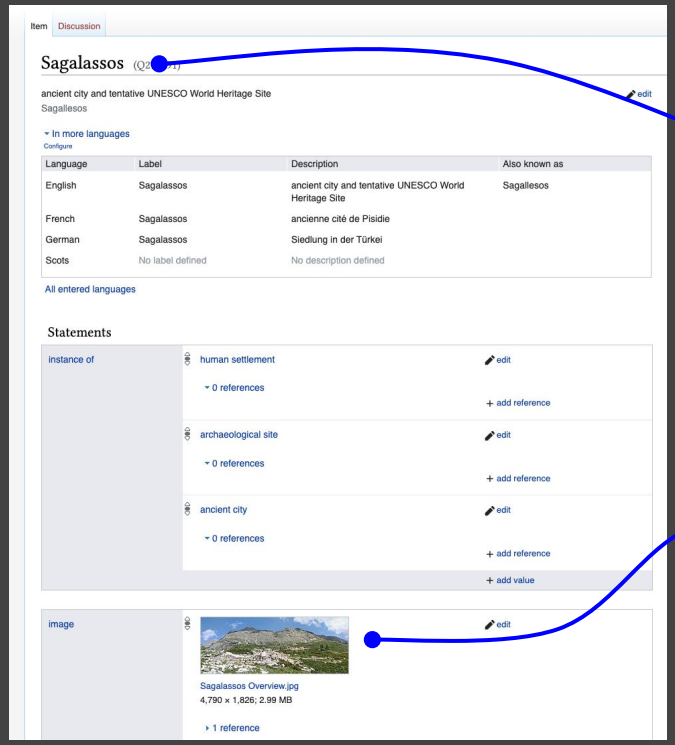


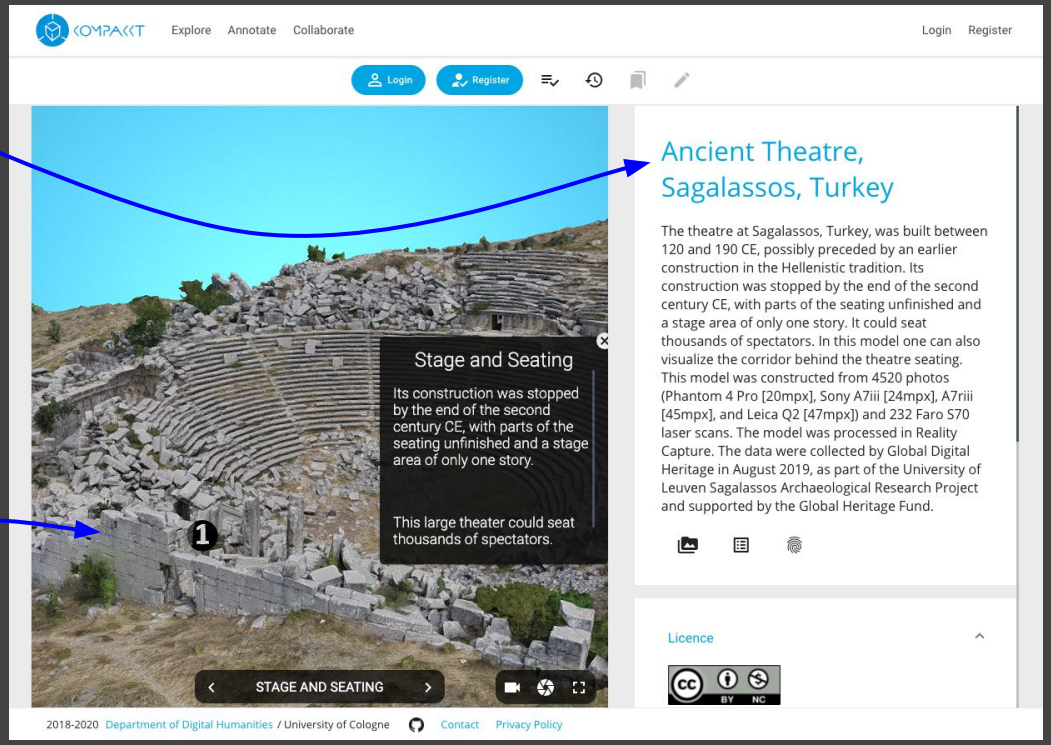
NFDI4Culture: Task Area 1



Task area 1: Data Capture and Enrichment

MVP (minimum viable product): Connecting a Wikibase instance for LOD management with the Kompakkt viewer for 3D image preview and annotation; Data upload pipeline via OpenRefine;

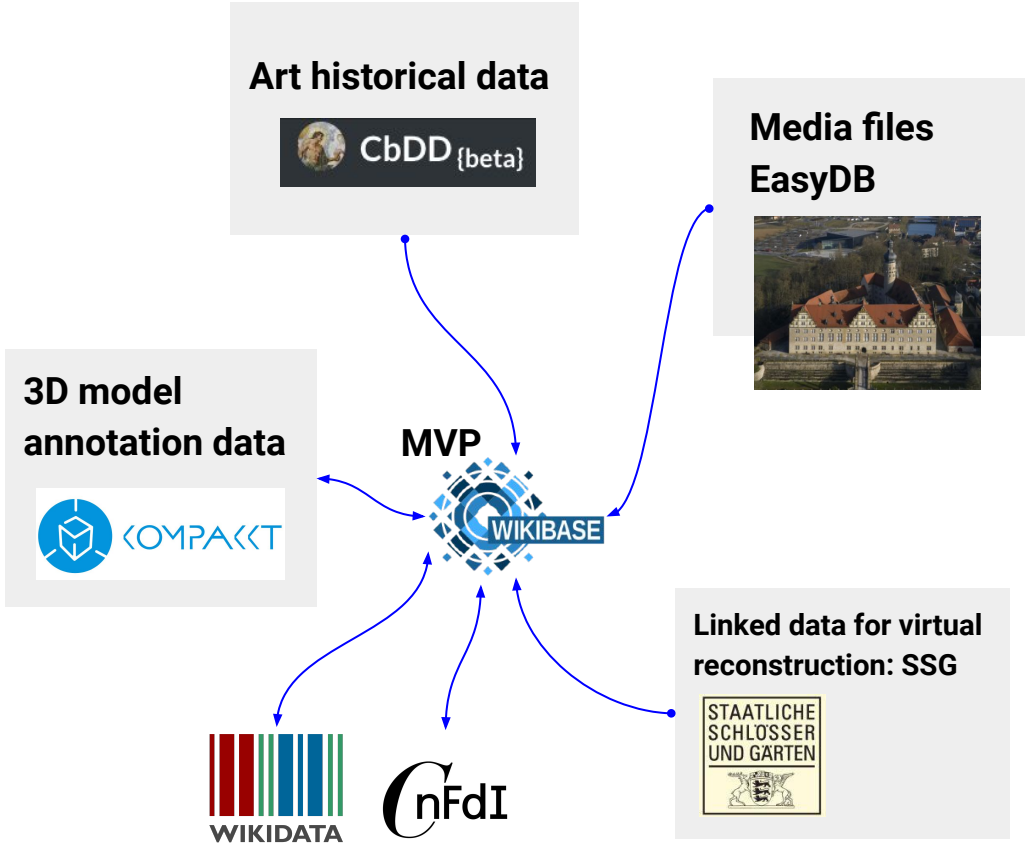




Case study – Weikersheim (current web platform)

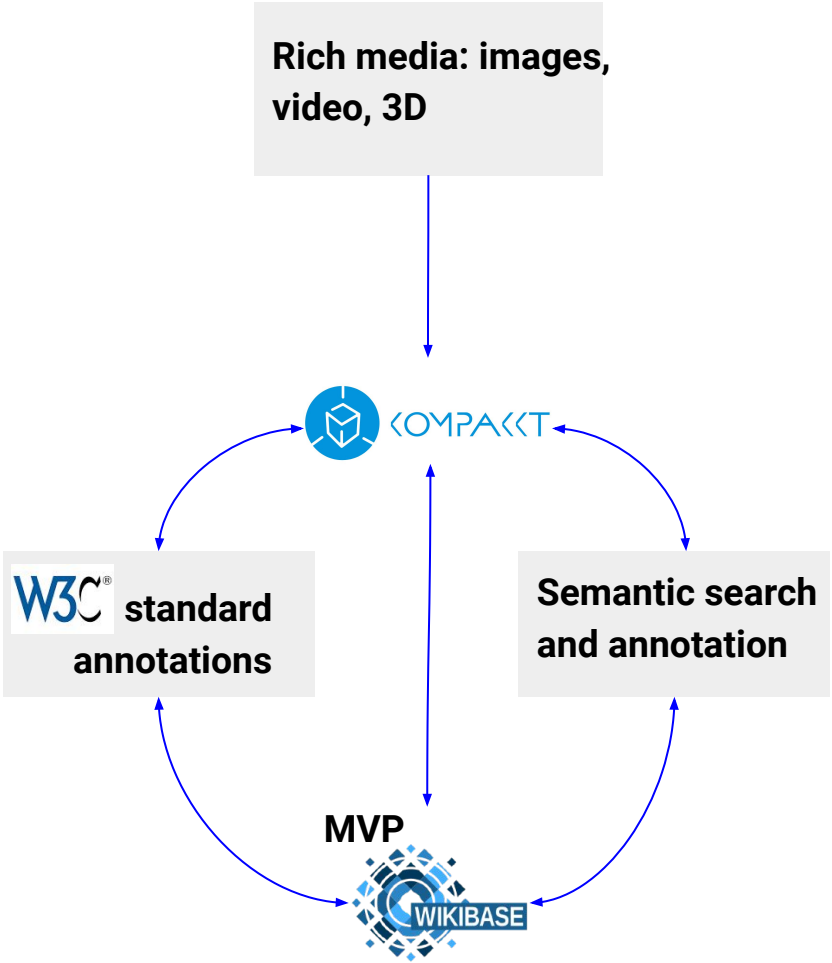
Benefits of Linked Open Data & Wikibase

- Reduces siloing and redundancy of data
- Enables the enrichment of data from external repositories via federation
- Enables sophisticated advanced search for concepts, rather than keywords
- Data can be part of the NFDI4Culture knowledge graph

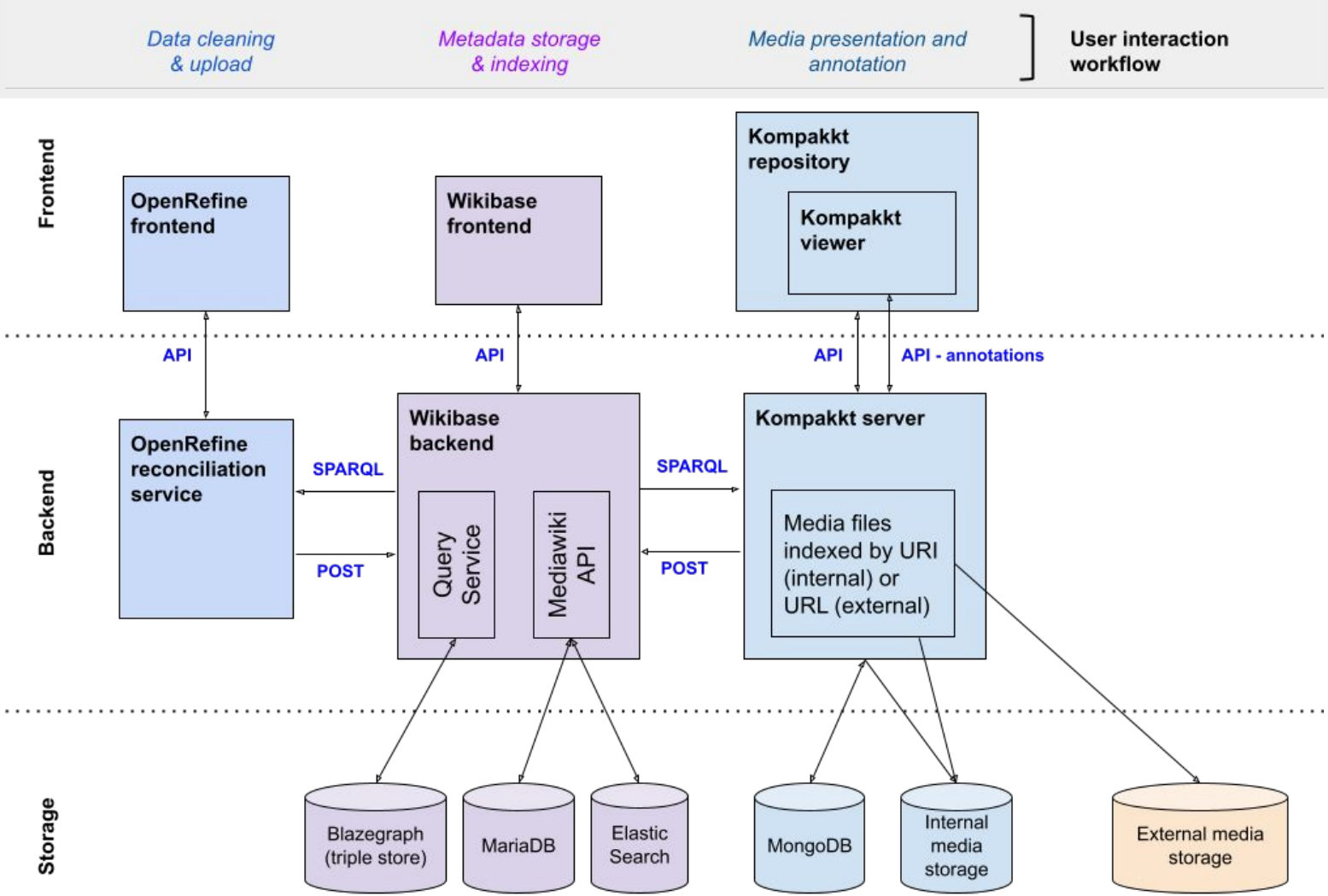


Benefits of annotation via Kompakkt

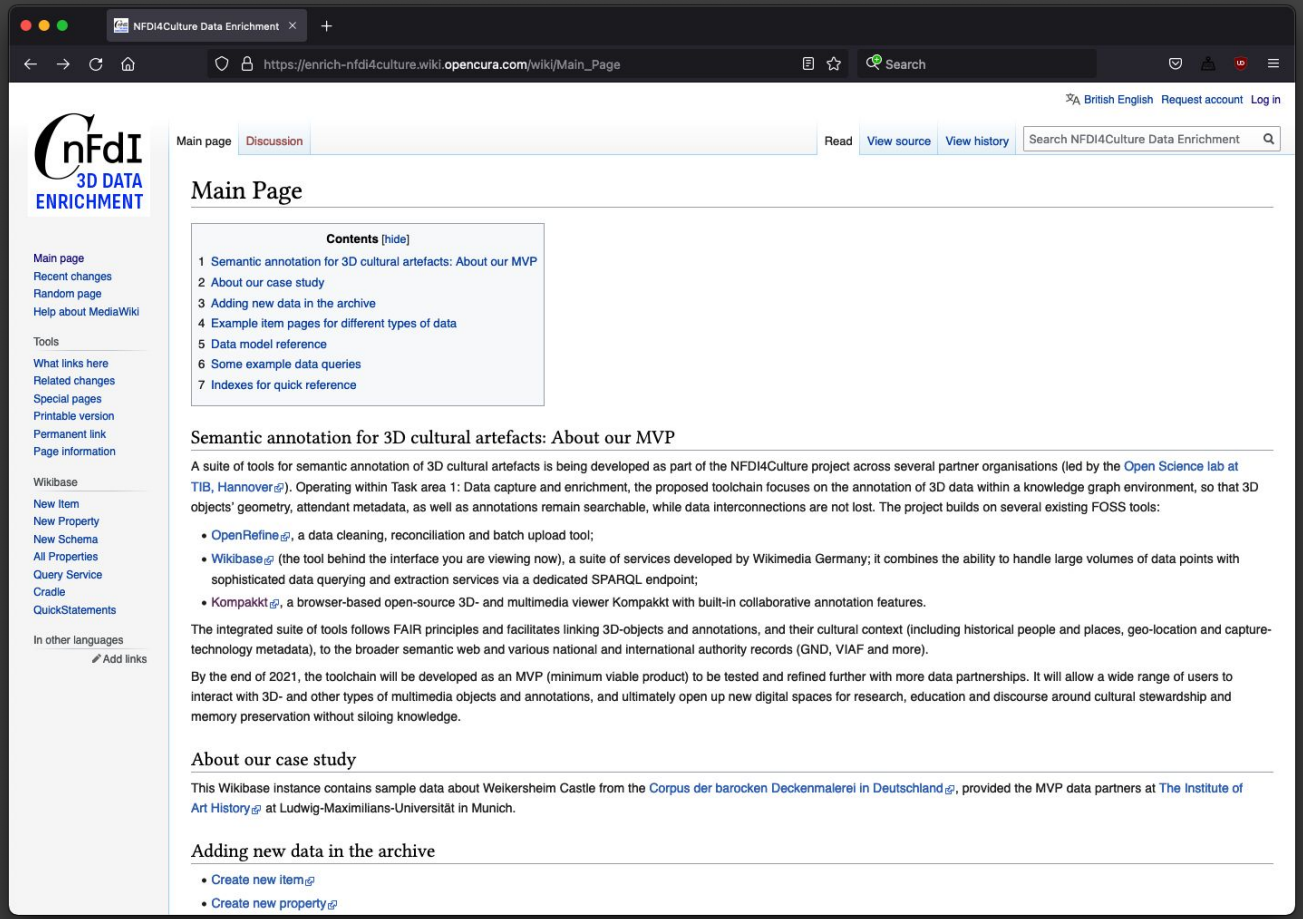
- Can be used with a variety of rich media, soon also point clouds
- Enables collaborative annotation of media files
- Can also be used for bulk operations, with additional configuration
- Follows annotation standards which can be made interoperable with a linked open data platform like Wikibase



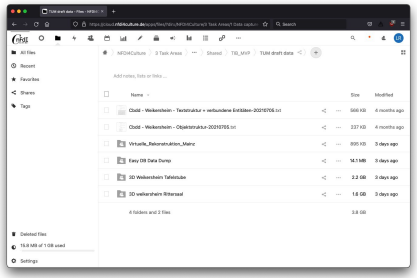
MVP architecture

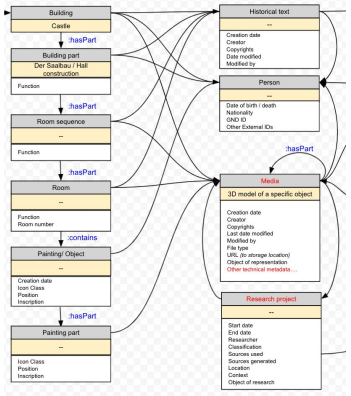


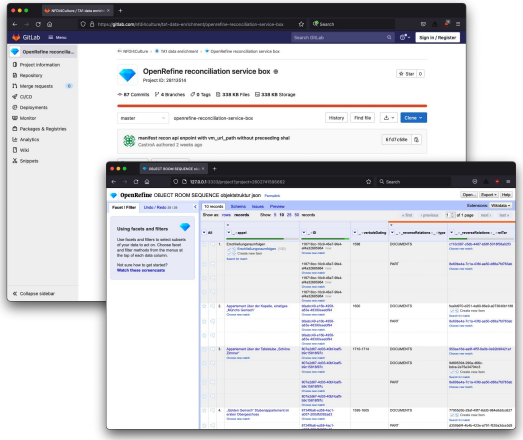
Wikibase instance

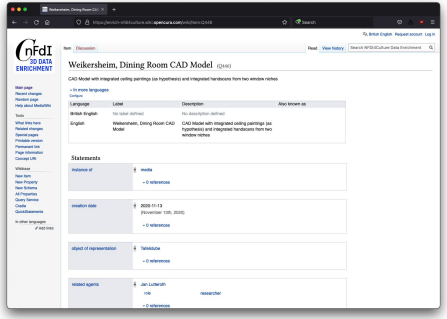


Data upload pipeline



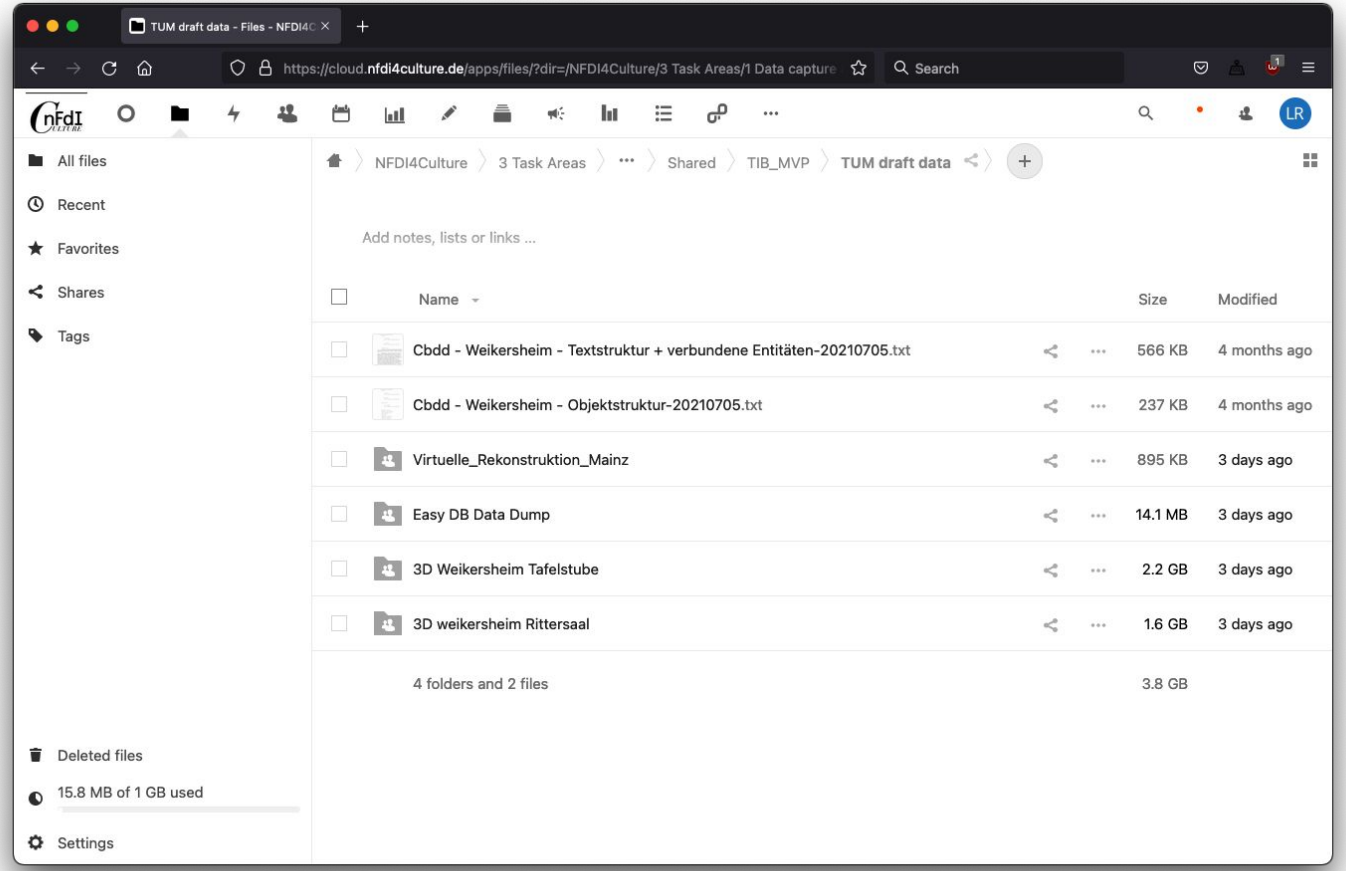




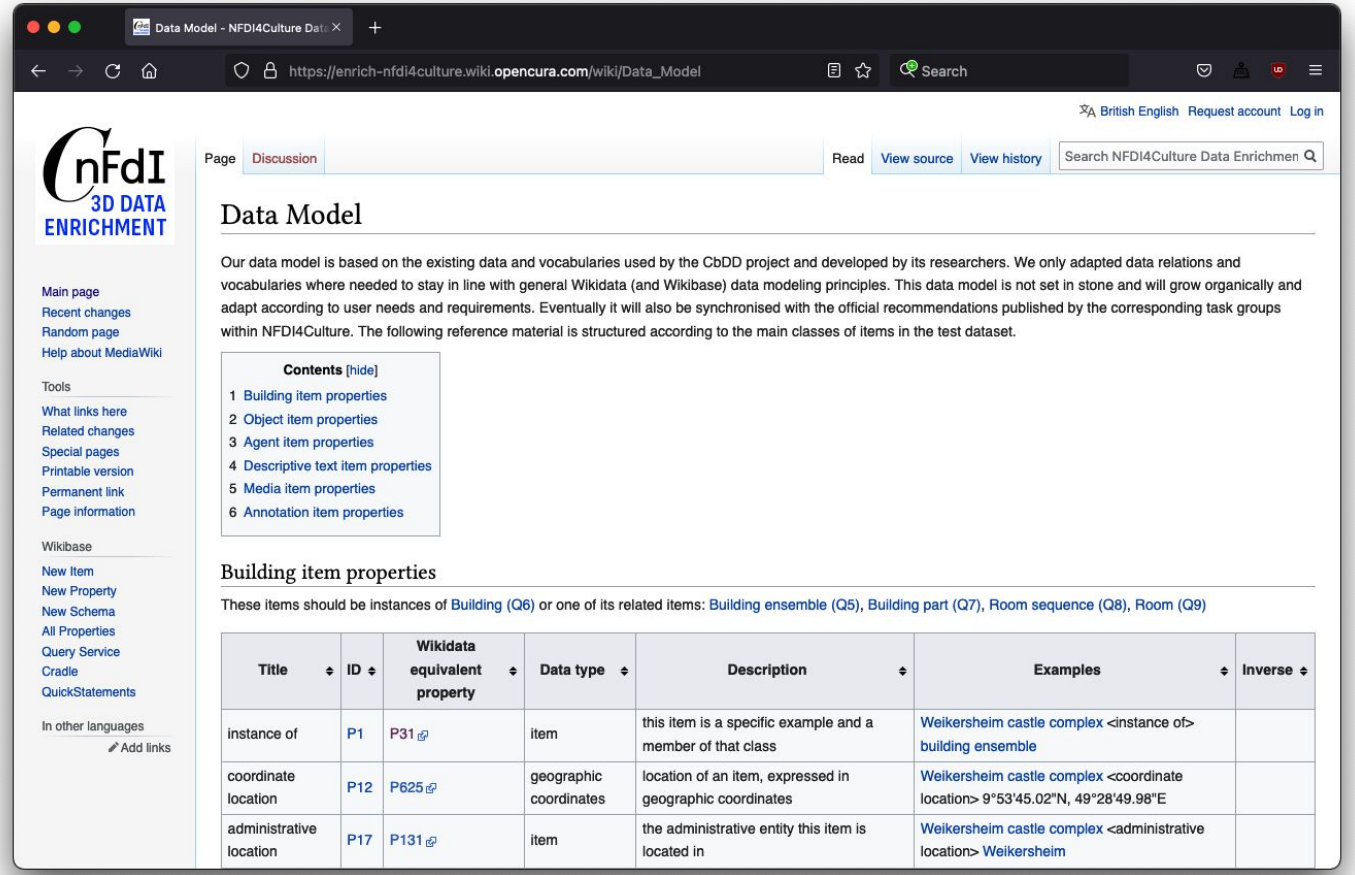


1. data collection → 2. data modeling → 3. data transformation + reconciliation → 4. data upload

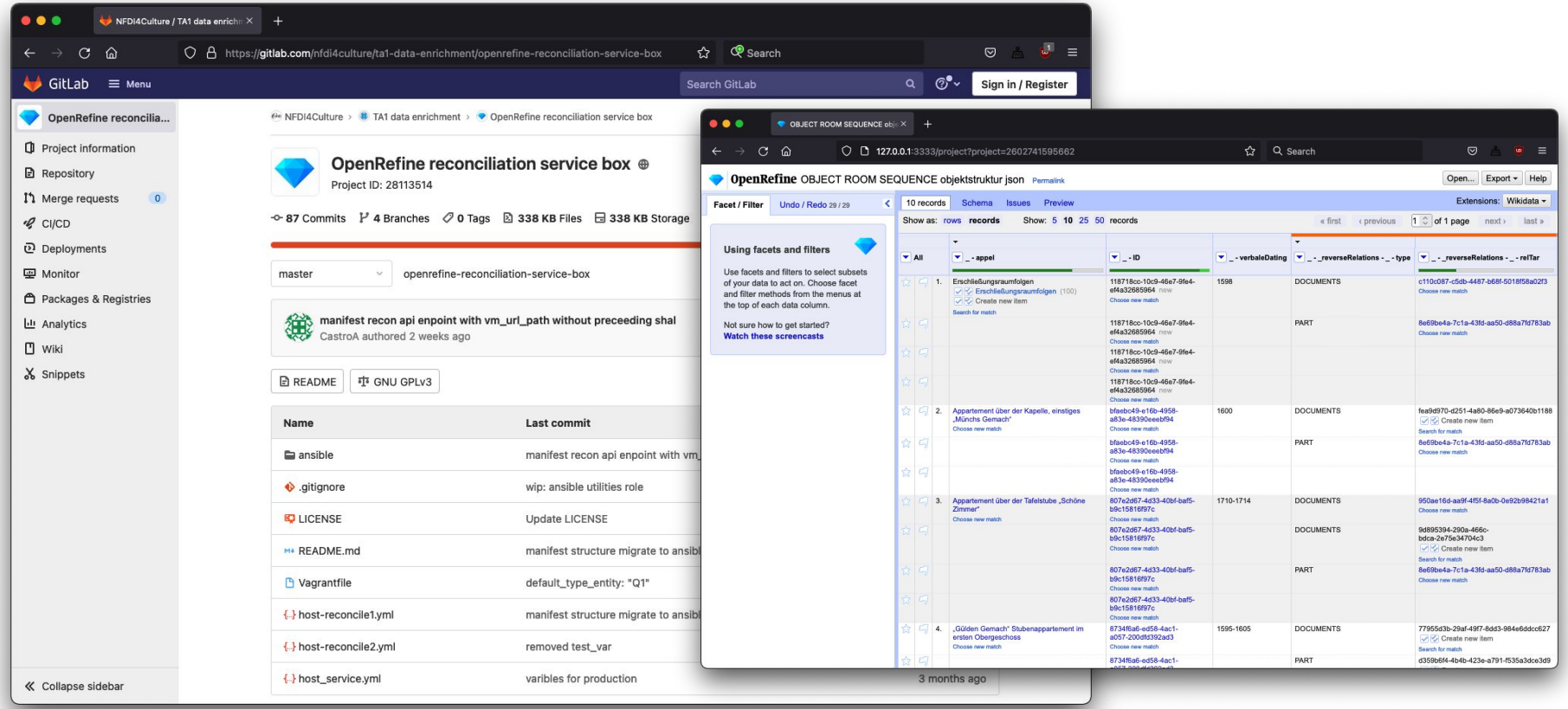
1. Collecting a wide range of data from our data partners



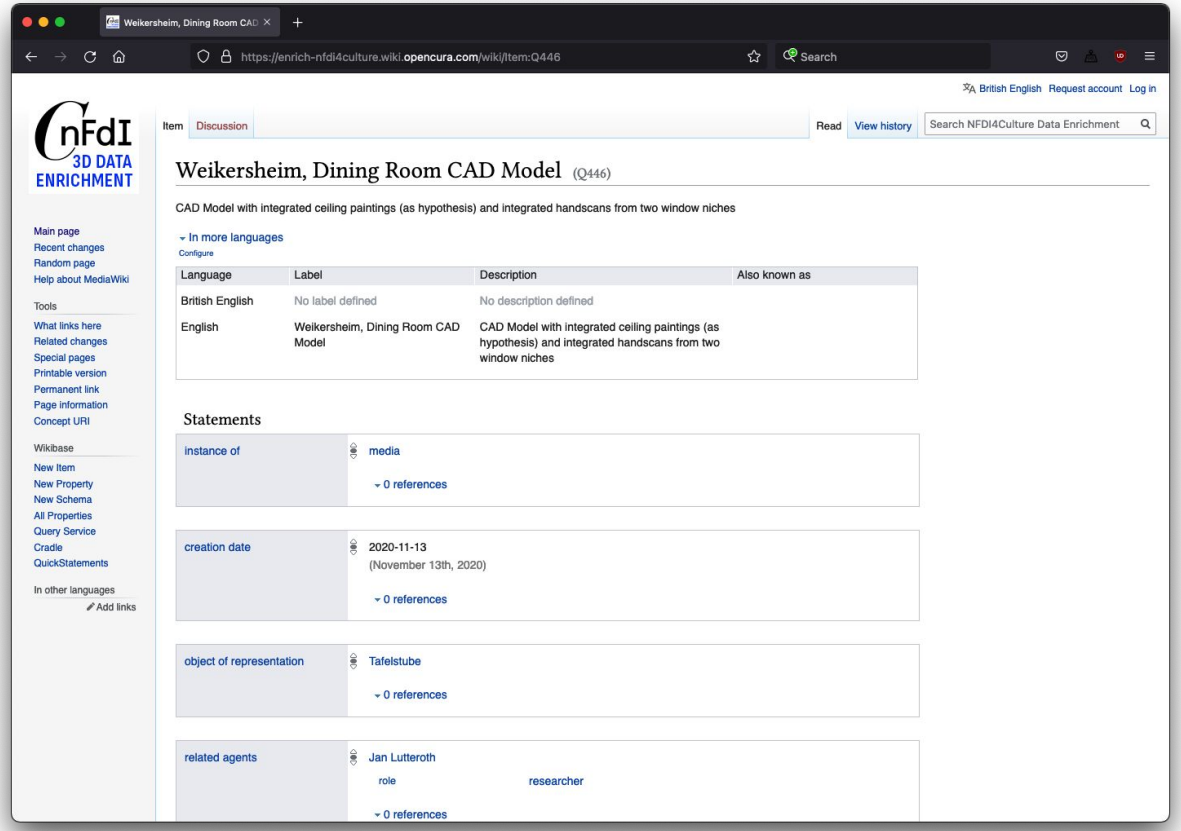
2. Developing a data model based on established vocabularies



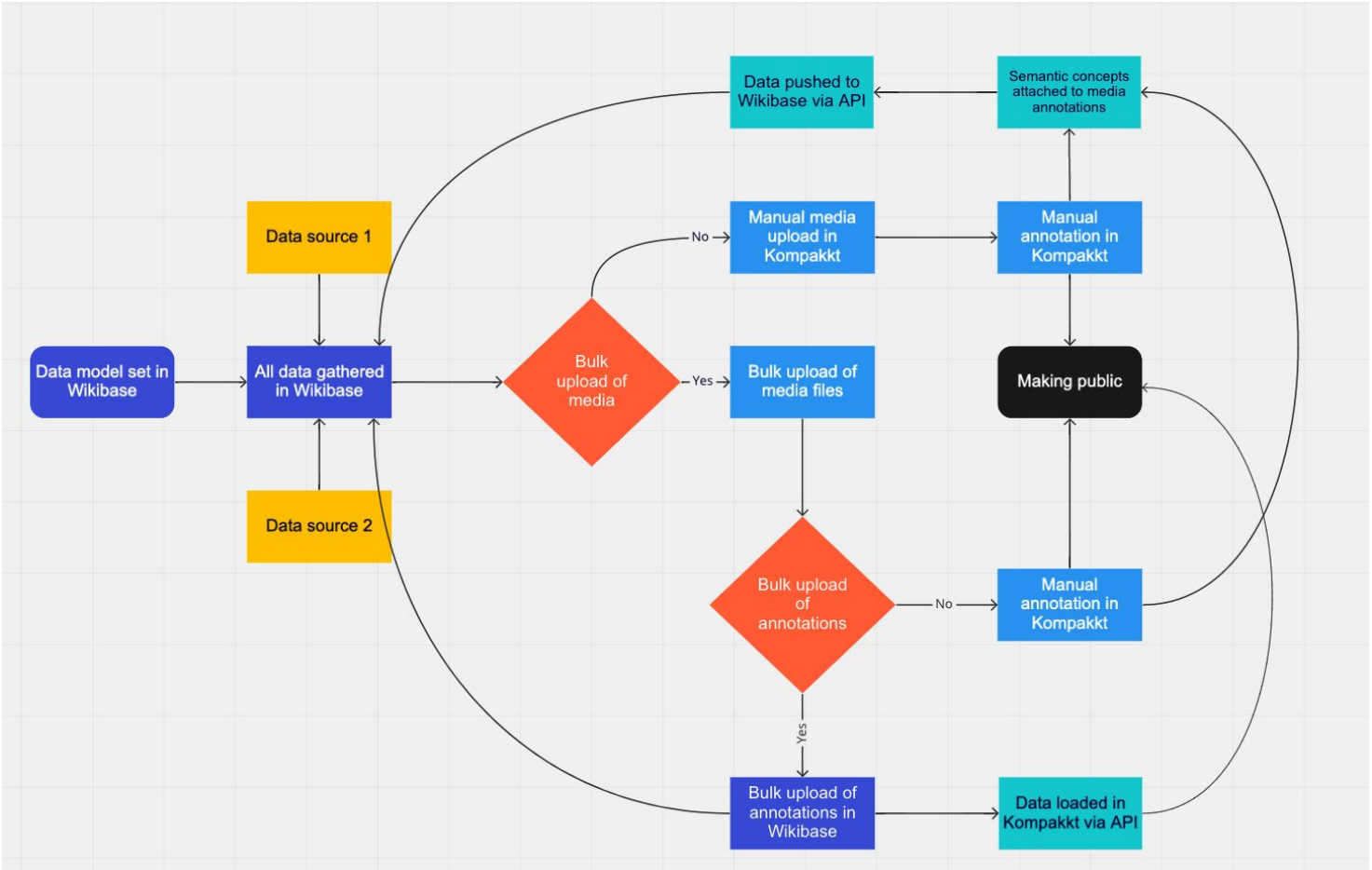
3. Creating a reconciliation service for an OpenRefine instance to connect to Wikibase & transforming the data into the correct schema needed for upload



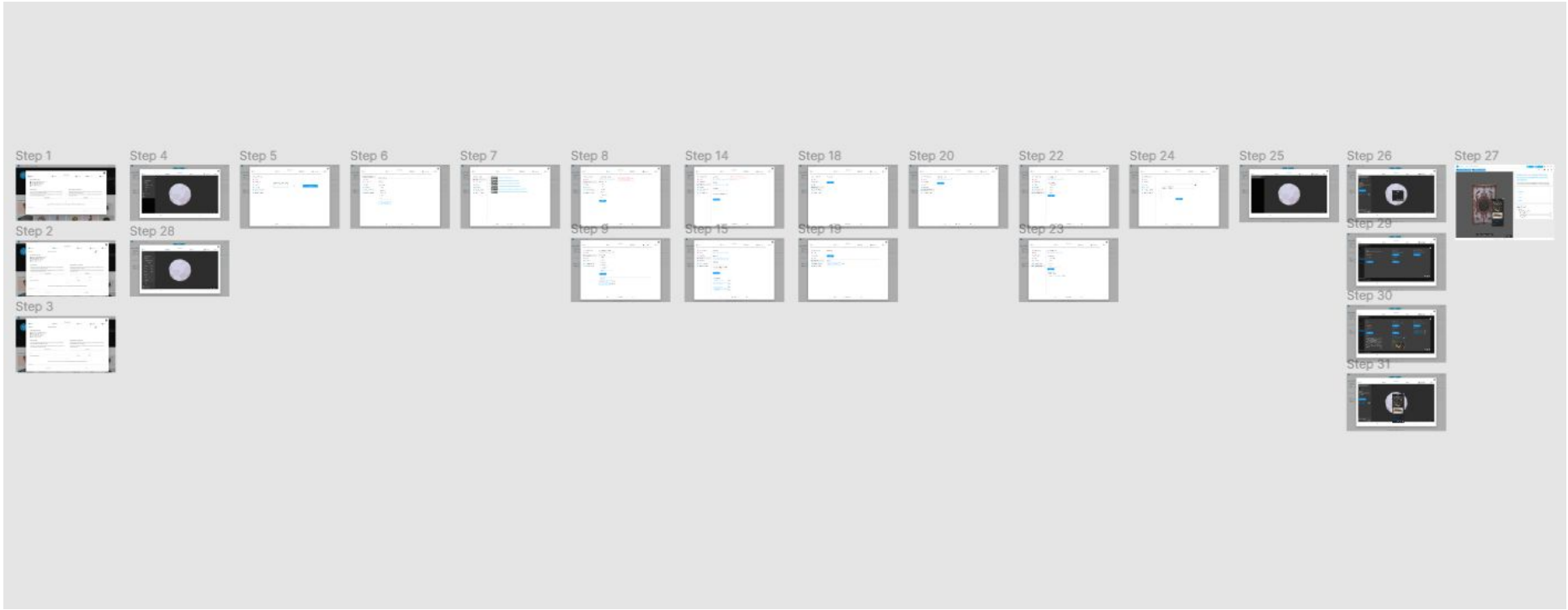
4. Uploading data through a mix of OpenRefine actions and bot scripts. Sample Wikibase item – CAD model item link



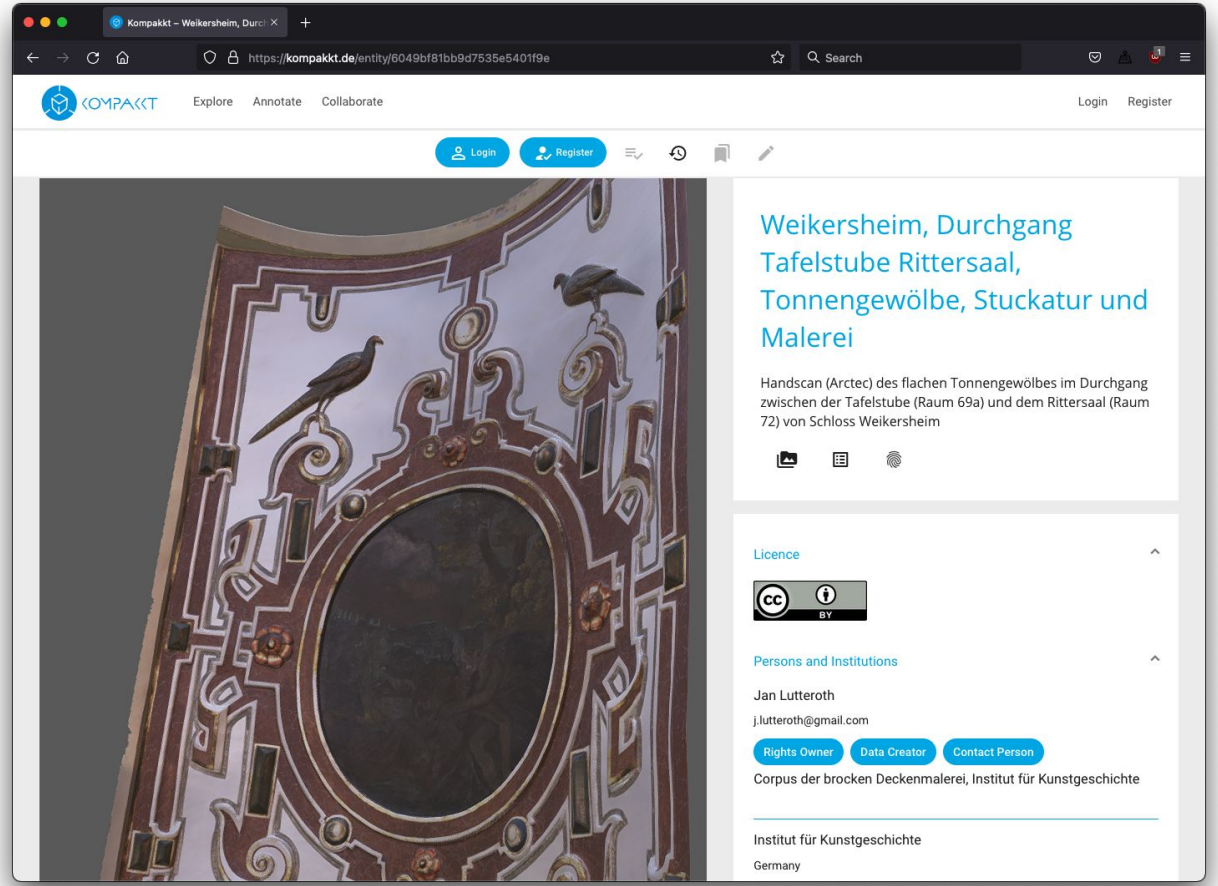
Data entry workflow: high level diagramme



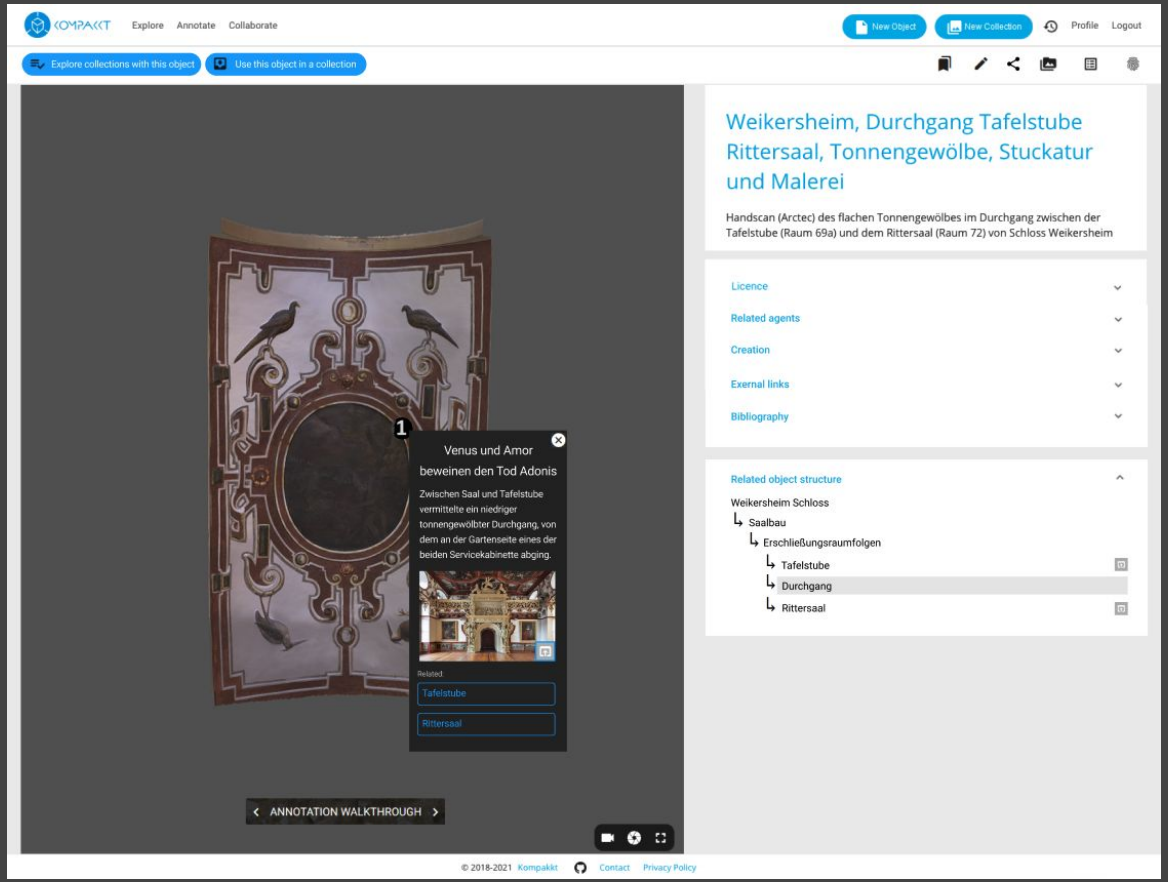
Data entry workflow: Phase 1, focus on manual annotation



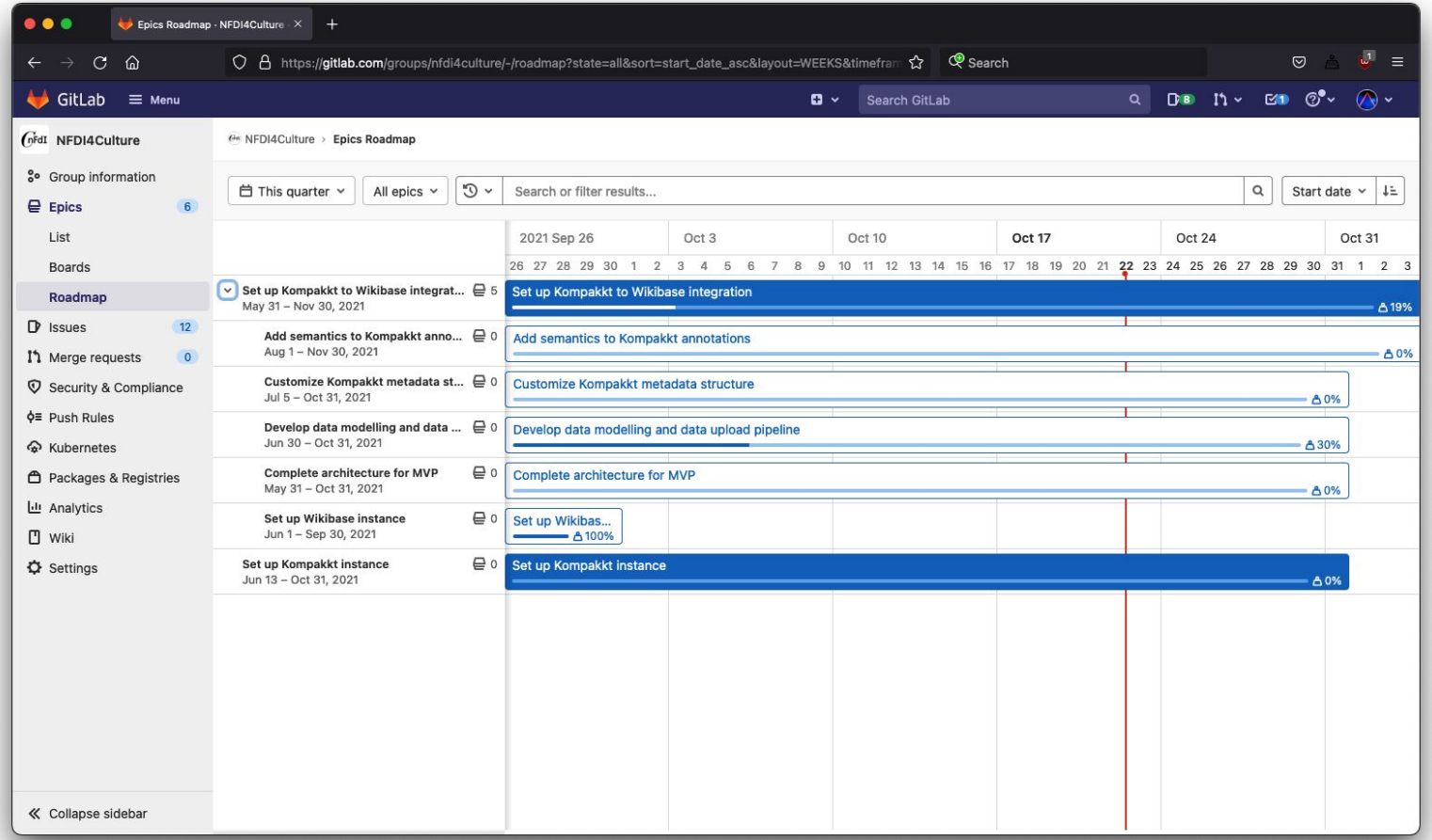
Sample Kompakkt item – Dining room passage handscan



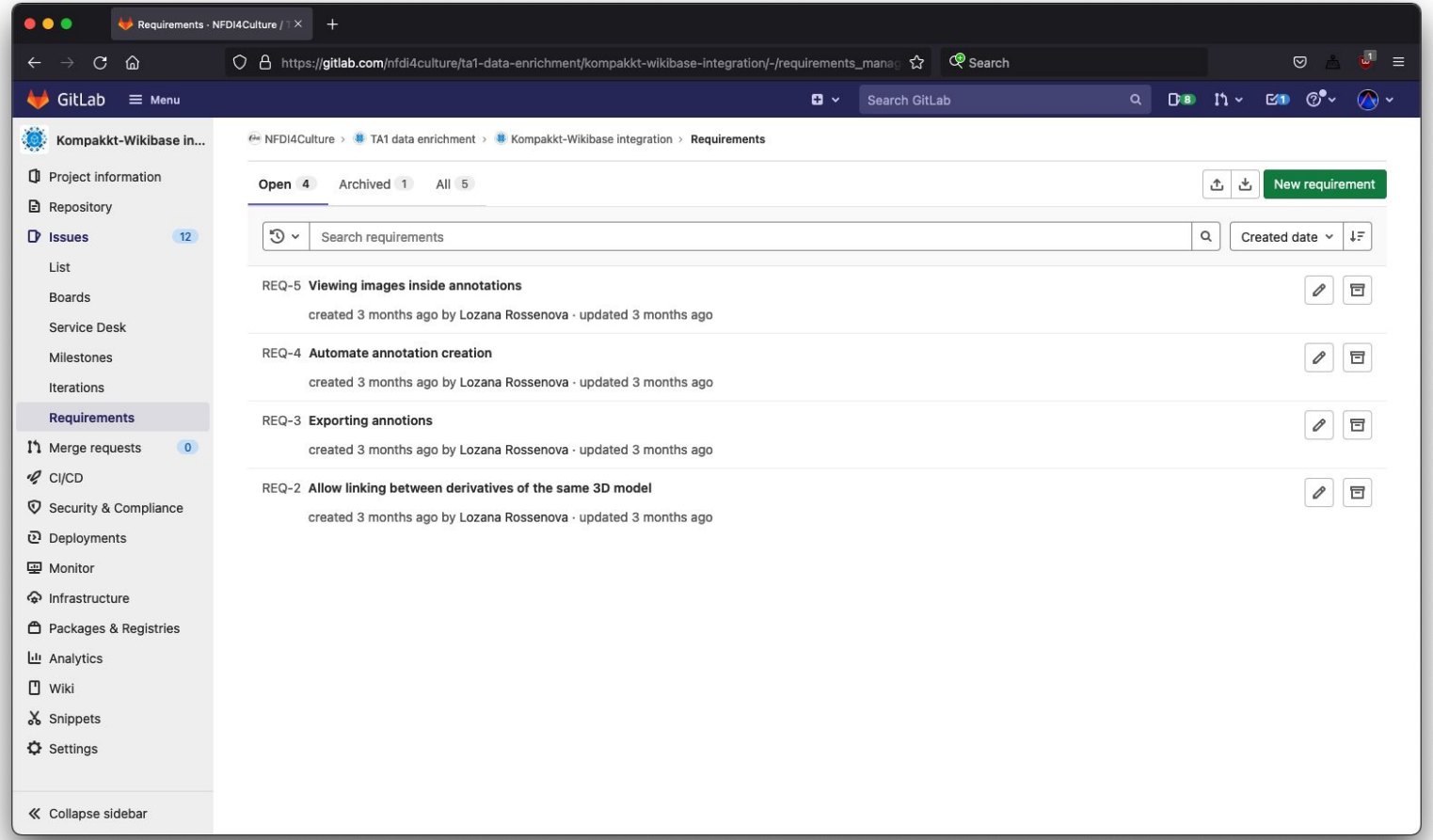
Semantic annotation in our custom Kompakkt instance:



Open development – GitLab



Open requirements gathering – contribute



Thank you!

Useful links:

https://nfdi4culture.de/
https://enrich-nfdi4culture.wiki.opencura.com/
https://openrefine.org/
https://kompakkt.de

Contact:

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Lozana.Rossenova@tib.eu