

# **Computational Publishing Comparison**

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## Computational Platforms Comparison

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# Computational Platforms Comparison

The idea is to see if computational publishing platforms could be used as presentation platforms for authors to create publication from LoD collections.

The use case is in architecture with content from the collection of Baroque frescos and ceiling painting in Germany held by the Barocke Deckenmalerei in Deutschland CbDD.

This test use case is based on work being done by Task Area 1 and 5 - TIB/OSL team who are working with the CbDD.

Currently most digital heritage archives are obscured by often necessary database models of presentation - adding an autoring layer to these collection using computational publishing would add useful way to work with these collections.

The anticipated outcomes are:

1. Using the platforms is a way of rapid prototyping the features you would want in a real-time editor that could access LoD APIs, or / and
2. The platforms could be used in their own rights as editors.

## Give example and make demo:

- First as a dummy doc in ADA Pipeline to show what is meant
  - The content would be based around replicated an existing work on a (Die Tafelstube / The Dining Room) as there are existing digital objects for this room and there are written descriptions.
- Then in one of the platforms below: probably Curvenote, maybe Jupyter Book?
- Document and present as computational publication with view on how could be implemented and integrated with the ADA Pipeline.

# Platforms

Table 1 Computational Publishing platform comparison 2022

Platform name	Web address	Example with Die Tafelstube	Comments
Colab	<a href="https://colab.research.google.com/">https://colab.research.google.com/</a>	Colab	
Jupyter Notebook / binder	<a href="https://jupyter.org/">https://jupyter.org/</a> and <a href="https://mybinder.org/">https://mybinder.org/</a>	Binder	
Curvenote	<a href="https://curvenote.com/">https://curvenote.com/</a>	Rendered Curvenote and edit mode	
Quarto	<a href="https://quarto.org/">https://quarto.org/</a>	To Do	
Jupyter Book / Executable Book	<a href="https://jupyterbook.org/">https://jupyterbook.org/</a> and <a href="https://executablebooks.org/">https://executablebooks.org/</a>	To Do	
DeepNote	<a href="https://deepnote.com/">https://deepnote.com/</a>		

## GitHub demo page

Collection working notes - <https://github.com/mrchristian/computational-publishing-for-culture>

## Platform 'Academic Markup' tests

These are simple but important tests to see if platforms can handle basic academic markup. A benchmark is already in place here with the ADA Pipeline.

### **Markup**

H 1, 2, 3, 4, 5, 6

Text markup: bold, emphasis, etc

List types and styles

Footnote

Citation / change CSL

Image

## Test: Digital Objects

<b>Objects and formatting (need to separate out)</b>	<b>Note</b>
Retrieve amount of text from LOD source.	
Text from CbDD webpage	<a href="#">Die Tafelstube</a>
DOI / CSL	Not used here - but we could show off this feature.
Thoth biblio info via API	<a href="#">Simon Bowie GitHub</a>
Footnote	Currently, look hard coded
ORCID info retrieval for authors, add more roles.	Not used at present
Images	<a href="#">LoD storage MVP</a> <a href="#">Images also stored with BAdW Source</a>
Figure, Figure caption, List of figures	Currently images have LOD drop down
Image caption	
Deep Image zoom	<a href="#">Source</a>
Compakt model	<a href="https://kompakkt.wbworkshop.tibwiki.io/explore">https://kompakkt.wbworkshop.tibwiki.io/explore</a>
TIB AV Portal video	<a href="https://av.tib.eu/">https://av.tib.eu/</a>
Leaflet map	Currently <a href="#">Open Street Map</a> is used
Wikidata LOD info: Painting (customize)	<a href="https://query.wbworkshop.tibwiki.io/">https://query.wbworkshop.tibwiki.io/</a>

# Test: Interactive Queries

Source	Example
Wikidata / WikiBase	Show nine images from specific painter. Display as grid. List specific LoD info fields.
Wikidata / WikiBase	Show all castles on Leaflet map with Baroque paintings as per CbDD entries. Allow for change of artists.
Wikidata Term Annotation - AMI (semanticClimate)	<a href="#">CoLab instructions</a>

## Resources

### Project

Sandbox Wikibase - <https://gitlab.com/paulduchesne/wikibase-sandbox>

### On the web

Tools list LOD UCLA Library (Oct 22)

## Work plan

The idea with the work plan is to deal with small exercised, like adding text and image, then a video and 3D model - and then to work up through from simple objects to more complex objects.

The starting point would be to replicate parts of the catalogue web page [Die Tafelstube](#).

Words 3,800. Characters with blanks 26,976. 14/15 images, LOD per image. Footnotes and references, geolocations.

- [Die Tafelstube](#)
  - [Belagerungsszenen des Langen Türkenkriegs an der Decke](#)
    - [Belagerung I: „Vestung Tottis, wie die von den Christen bei der Nacht erobert wo](#)
    - [Belagerung II: „Vestung Gran wie die von Christen belegt gewesen. 1594“](#)
    - [Belagerung III: „Vestung Raab, wie die vom Türcken belegt gewesen. A\[nn\]o 1594](#)
    - [Belagerung IV: „Vestung Comorna wie die vom Türckn belegt gewe\[sen\] 1594“](#)
    - [Belagerung V: „Vestung Gran wie die von den Christen wider erobert worden. A\[nn\]](#)
    - [Belagerung VI: “Vestung Vizzegrad wie die von Christen belegt gewesen Anno 159](#)
    - [Belagerung VII: „Statt Waitzen wie die von vom Türcken belegt gewesen 1597“](#)
    - [Belagerung VIII: „Vestung Raab, die Christen bey der Nacht wider erobert. A\[nn\]o](#)
    - [Belagerung IX: „Hauptstatt Offen. wie die von Christen belegt gewesen. 1598.“](#)
    - [Belagerung X: „Hauptstatt Offen, wie die von Christen belegt gewesen. Anno 160](#)
    - [Belagerung XII: „Vestung Gran wie die vom Türcken belegt gewesen A\[nn\]o 1604“](#)

- Belagerung XI: „Hauptstatt Offen, wie die von Christn belegt gewesen, ein Schä
- Programm und Synthese der einstigen Tafelstube

The first goal would be to have a presentation for CbDD so that they can be engaged in the project, and we can get their input and find out what interests them.

- Evaluate platform for **Academic Markup** tests.
- Make a small report on platforms - The platforms have different functionality, some with presentation formats, PDF generation.
- Make a 'dummy prototype' in ADA Pipeline showing the overall idea and examples for different objects and the publication. Make as slide presentation too.
- Text and images
- Room metadata, LOD
- Add Compakt models
- Add deep image zoom
- Add TIB AV Portal videos
- Add PIDs
- Annotate terms in Wikidata - Term stemming in Wikidata results in a supporting multilingual discovery
- Show bibliographic record from Thoth
- Support dynamic citation and footnoting, CSL
- Try out queries



# Work Plan - Oct 22

## Use case

Proof of concept publication on a computational publishing platform.

Motivation: Can 'computational publishing platform' act as a authoring and querying tools for LOD sources. Most cultural digital databases are presented in the mode of a database engineering - can the platforms act as story telling (presentation) layers directly drawing from and connected to the LOD sources.

Presentation of CdBB content based on LOD work by NFDI4Culture '**Semantic annotation for 3D cultural artefacts**' MVP content: Baroque ceiling painting and frescos Germany from the existing *barocken Deckenmalerei in Deutschland* (CbDD) collection.

## Baroque ceiling painting in Germany

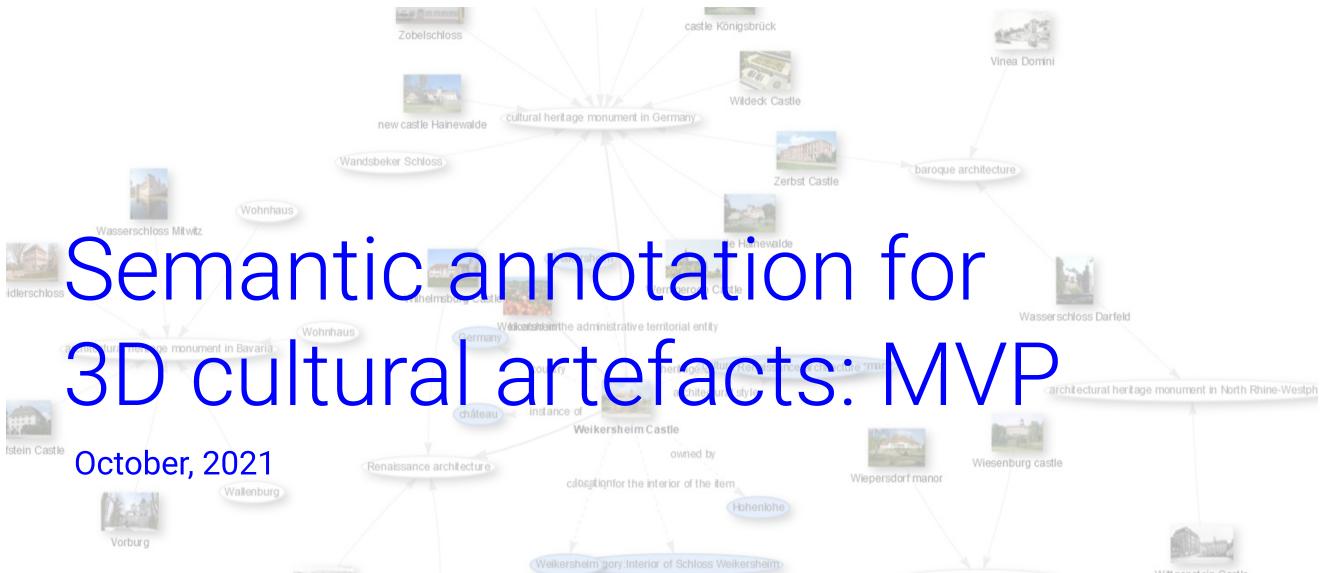
<https://www.deckenmalerei.eu/>

<https://deckenmalerei.badw.de/das-projekt.html>

CdBB NFDI4Culture MVP: 'Semantic annotation for 3D cultural artefacts'

Video and slides

Video - MVP



# Semantic annotation for 3D cultural artefacts: MVP

October, 2021

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



Video - <https://youtu.be/FvU6O23Ozyc>

Slides - <https://zenodo.org/record/5628847>

About MVP and data - Semantic annotation for 3D cultural artefacts: About our MVP

GitLab - <https://gitlab.com/nfdi4culture/ta1-data-enrichment/kompaakt-docker>

Source content: The Dinning Room - <https://www.deckenmalerei.eu/42d06165-58e7-4653-bfe4-3d5f7091fc33#7fb9a718-7e18-4053-81d9-3689f3f65548>

## Goals

- Produce a proof of concept publication for Feb '23 from CdBB MVP content
- Present the PoC Publication at COPIM Feb 23 conference
- Hold workshop with cultural historians to see how Notebook tools could help them tell their stories

## Questions

1. What computational platforms work for publishers?
2. What's interesting for readers in computational publishing platform?
3. Road testing platforms: using digital objects; performing LOD queries and visualization; usability, suitability for publishers, readers, and authors?

## Testing

### Computational Platforms

Work on both at the same time as code should work in each platform set:

- Jupyter Notebooks, Jupyter Hub, MyBinder
- Curvenote

## Objects and processes

Prioritize the following:

- Text
- Citations
- PIDS: ORCID, DOI, ROR
- Image
- 3D Model
- Audio
- TIB AV video
- LOD for the above

**Round one content processing would be so that we can demo the platforms to CbDD researcher and get their feedback:**

Source content: The Dinning Room - <https://www.deckenmalerei.eu/42d06165-58e7-4653-bfe4-3d5f7091fc33#7fb9a718-7e18-4053-81d9-3689f3f65548>

## Resources

Data model - [https://wikibase.wbworkshop.tibwiki.io/wiki/Data\\_Model](https://wikibase.wbworkshop.tibwiki.io/wiki/Data_Model)

All items with LoD - stored by team MVP

3D models - <https://kompakkt.wbworkshop.tibwiki.io/explore>

Manual, bulk, automatic LOD and media upload process - get info from

Open Refine term disambiguation guide - <https://marketplace.sshopencloud.eu/training-material/90ekdY>

Semantics Explainer - [https://semanticclimate.github.io/p/en/posts/oaweek\\_semantic/](https://semanticclimate.github.io/p/en/posts/oaweek_semantic/)

Blogpost from #semanticClimate for LOD explainer - <https://blogs.tib.eu/wp/tib/2022/10/24/semantifying-the-ipcc-reports-a-hackathon/>