Wikibase4Research

Open Science Lab @ TIB Hannover
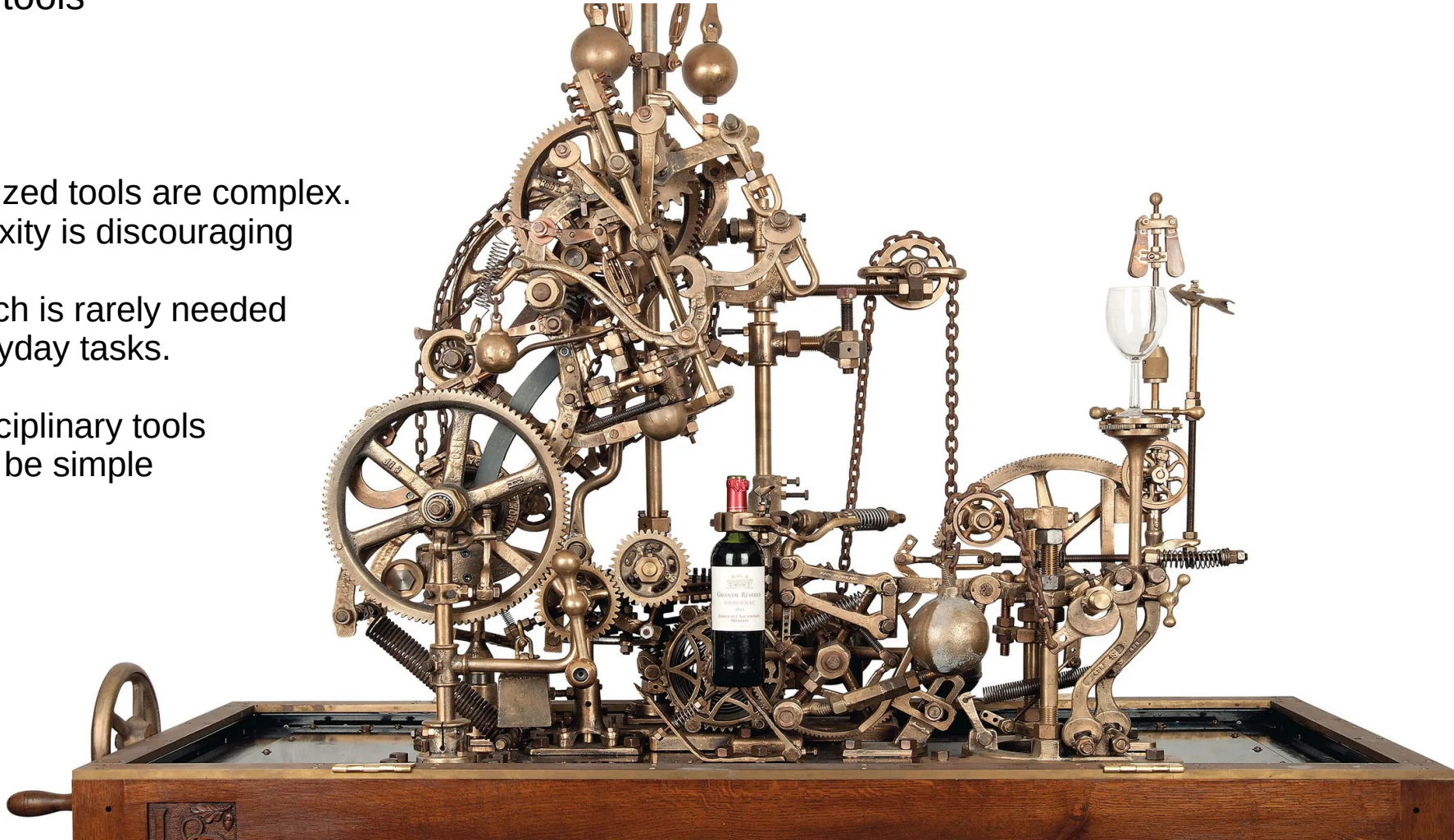Kolja Bailly

Specialized tools

Specialized tools

- Specialized tools are complex.
  Complexity is discouraging

- High-tech is rarely needed
  for everyday tasks.

- Interdisciplinary tools
  need to be simple

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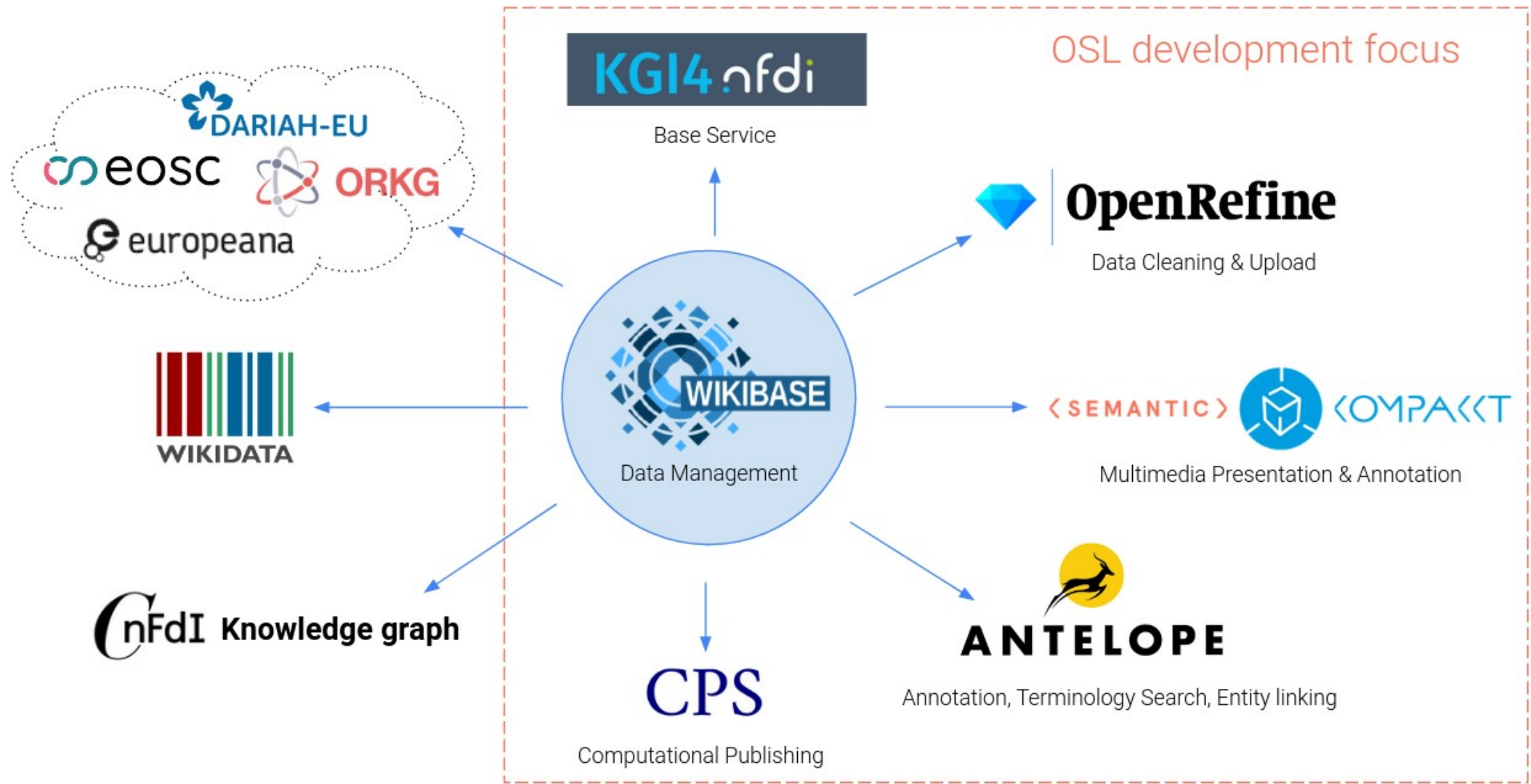Usability vs. Funcionality

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Usability vs. Functionality

- Good tools are fun

- Usability also means: hiding functions

- User interface and workflows are the focus

- Domain-specific solutions instead of a
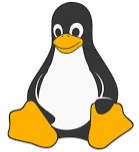 'jack of all trades'

OSL development focus

KGI4 nfdi
Base Service

DARIAH-EU
eosc ORKG
europeana

OpenRefine
Data Cleaning & Upload

WIKIDATA

WIKIBASE
Data Management

〈SEMANTIC〉 KOMPAKKT
Multimedia Presentation & Annotation

nFdI Knowledge graph

CPS
Computational Publishing

ANTELOPE
Annotation, Terminology Search, Entity linking

Wikibase

Public knowledge base

Free open source software codebase

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„We just need a database and a simple frontend"

Environment	Framework	Extensions	Services

Environment
- Linux
- Webserver
- SQL

Framework
- MediaWiki

Extensions
- Semantic MediaWiki
- Semantic Wikibase
- WIKIBASE
- Mediawiki Extensions (1493)

Services
- OpenRefine
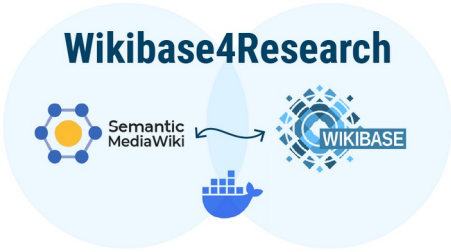- WBJobrunner
- WDQS
- ElasticSearch

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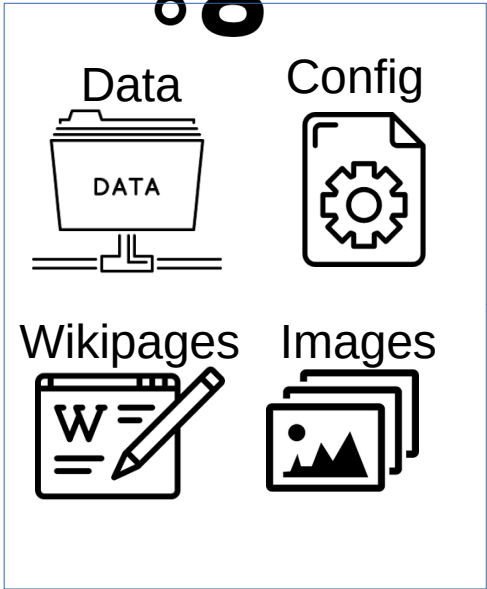
Your project
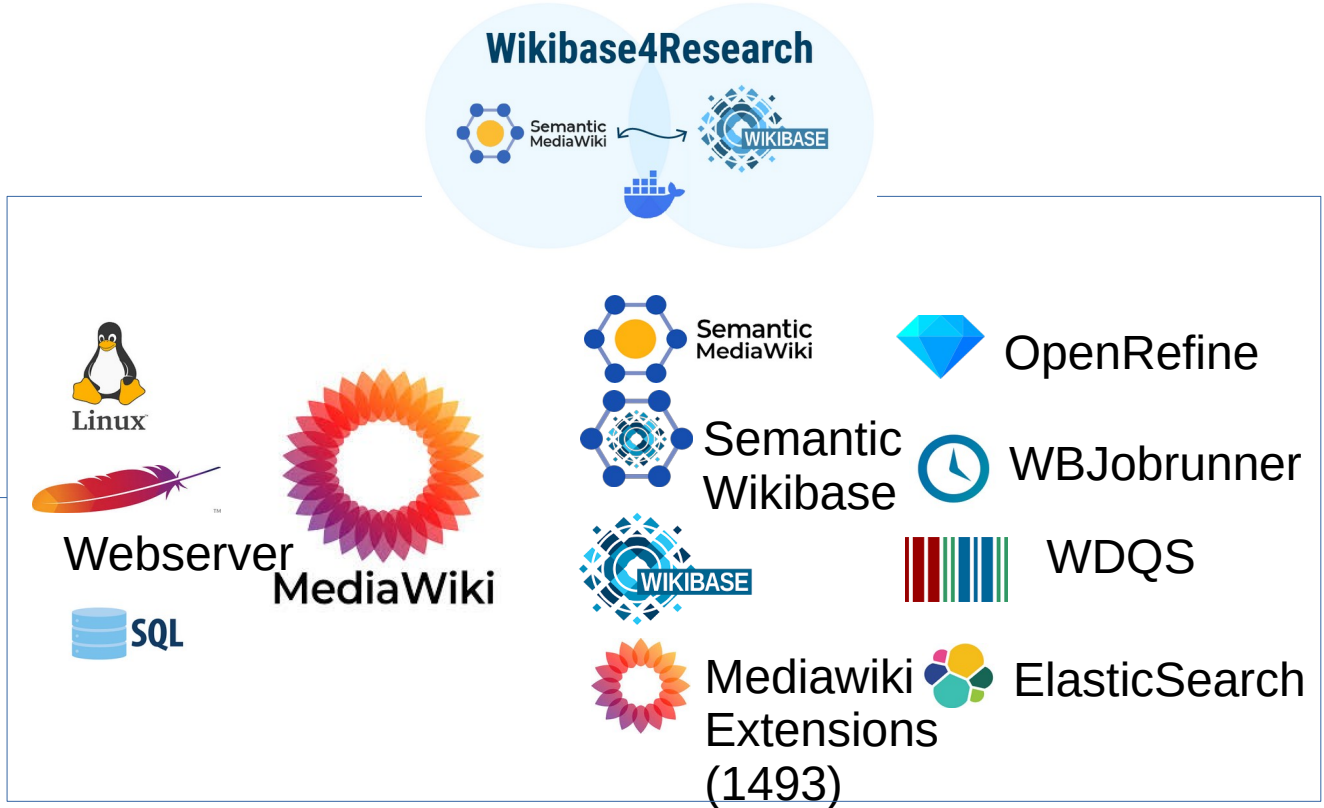
Your tool

Semantic Wikibase

Wikibase frontend

- DB view on items

- Design not customizable

- No Item Aggregation

- Data view/editing in a single page

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Semantic Wikibase

- Interactive website from DB

- Lots of visualisation modules

- Semantic queries
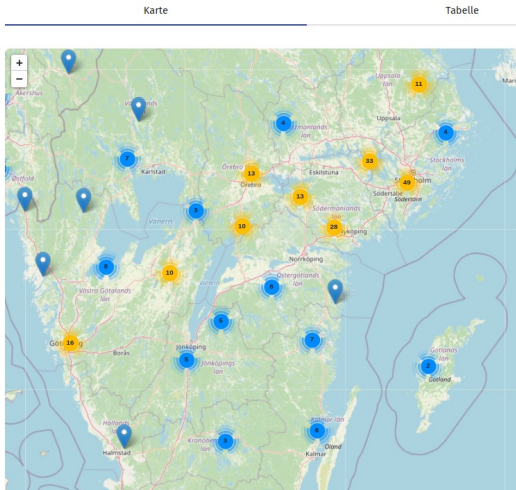
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Semantic Kompakkt

- Semantic annotation of 3D Data

- Interactive viewer / editor

- Wikibase connection

- SMW integration

- Meshdata & pointclouds
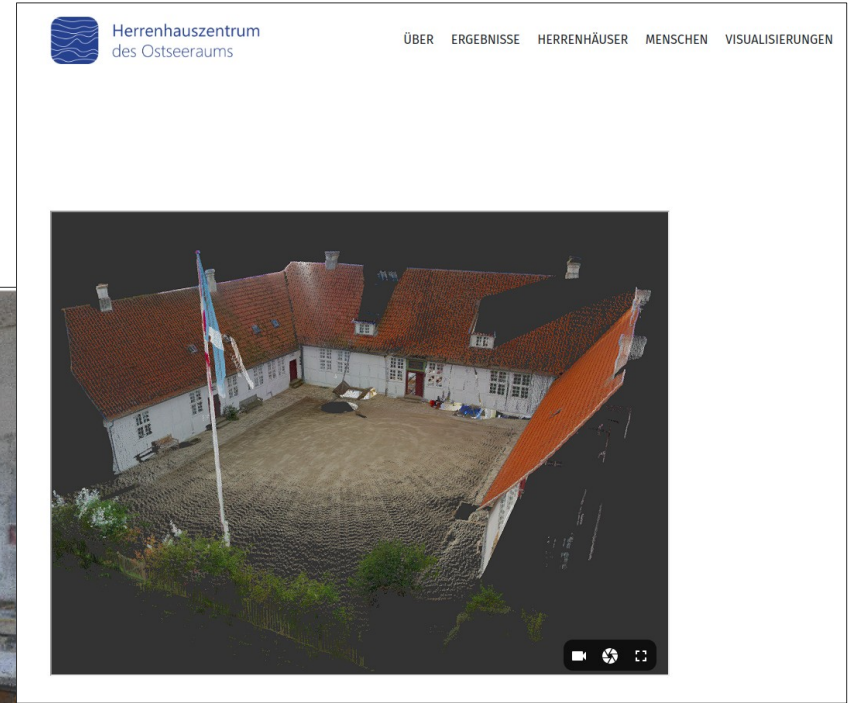
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Data federation

- Mapping data to federated db

- Decision support tools

- Bulk data processing

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ANTELOPE annotation service

Terminology search + results visualization and export

TERMINOLOGY SEARCH   ENTITY LINKING   IMAGE RECOGNITION

Type the term you want to search for (single word or phrase):

Pina Bausch

SELECT TERMINOLOGY SOURCES ⓘ

☐ WIKIDATA
☑ WIKIDATA + DBpedia
☐ ICONCLASS
☑ GND (Gemeinsame Normdatei)
☐ TIB Terminology Service

SETTINGS

☐ Allow class duplicates ⓘ

SEARCH   RESET

GRAPH   TABLE

- Pina Bausch Archiv — SH:Digit...
- Pina Bausch
- Pina Bausch (Zusamme[...]
- Tanztheater Wupperta[...] — SH:Tanz...
- Friedrich-Albert-Lan[...]
- Convegno Internazion[...] — SC:Pers...
- Bausch, Pina — SC:Pers...
- Pina Bausch Foundation — SH:Stiftu...

GND

Entity linking with possibility for user-defined dictionary

TERMINOLOGY SEARCH   ENTITY LINKING   IMAGE RECOGNITION

Type the text you want to run entity linking on (single words or whole sentences):

Pina Bausch is a German dancer and choreographer.

SELECT DICTIONARY: ⓘ

CUSTOM   PREDEFINED

LIST OF ENTITIES   SIMPLE DICTIONARY   EXTENDED DICTIONARY

```
{
    "entity1": {
        "label": "choreographer", "patterns": [ "pina bausch" ], "kb_id": "entity1", "kb_url": "entity1_url"
    }
}
```

SETTINGS:

Similarity radius: wide ●—— narrow ⓘ

☐ Allow class duplicates ⓘ

SEARCH   RESET

Image recognition support for entity linking via iArt

TERMINOLOGY SEARCH   ENTITY LINKING   IMAGE RECOGNITION

Durchsuchen… ahne_30035221_44_0000_601.webp

Optional image description:

Pina Bausch archive photo.
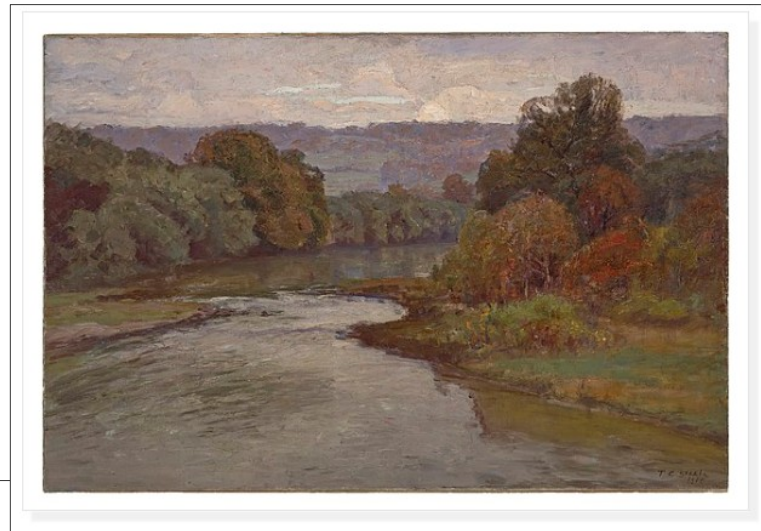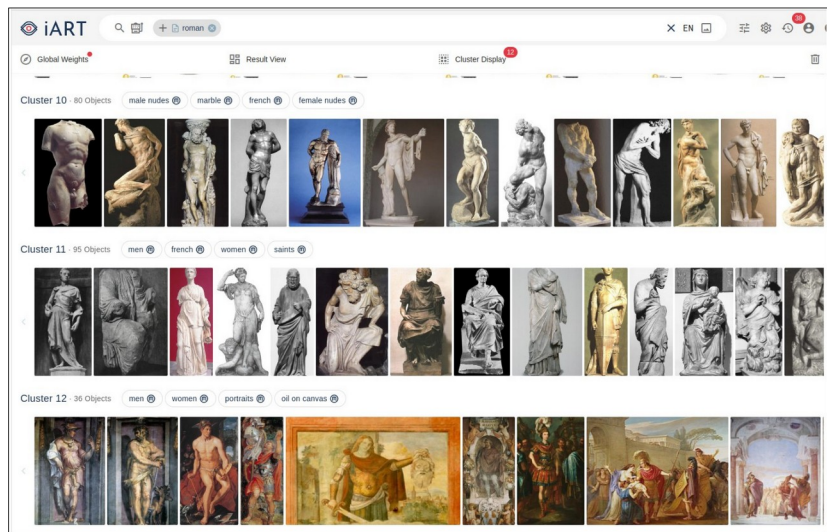
SELECT DICTIONARY: ⓘ

CUSTOM   PREDEFINED

LIST OF ENTITIES   SIMPLE DICTIONARY   EXTENDED DICTIONARY

"performers", "Pina Bausch", "stage", "cacti"

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ANTELOPE – Image recognition

- iART functionality included

- Image/Text classification

- Supports custom terminologies

| Entity	Similarity Score
23F44: autumn landscape; landscape symbolizing autumn (the four seasons of the year)	0.759
23L41: landscape symbolizing October	0.746
23L42: landscape symbolizing November	0.745
24A720: 'Equinottio dell'autunno' (Ripa)	0.744
23D44: autumn, fall, 'Autumnus'; 'Autunno' (Ripa)	0.741
23L33: landscape symbolizing September	0.737

CPS
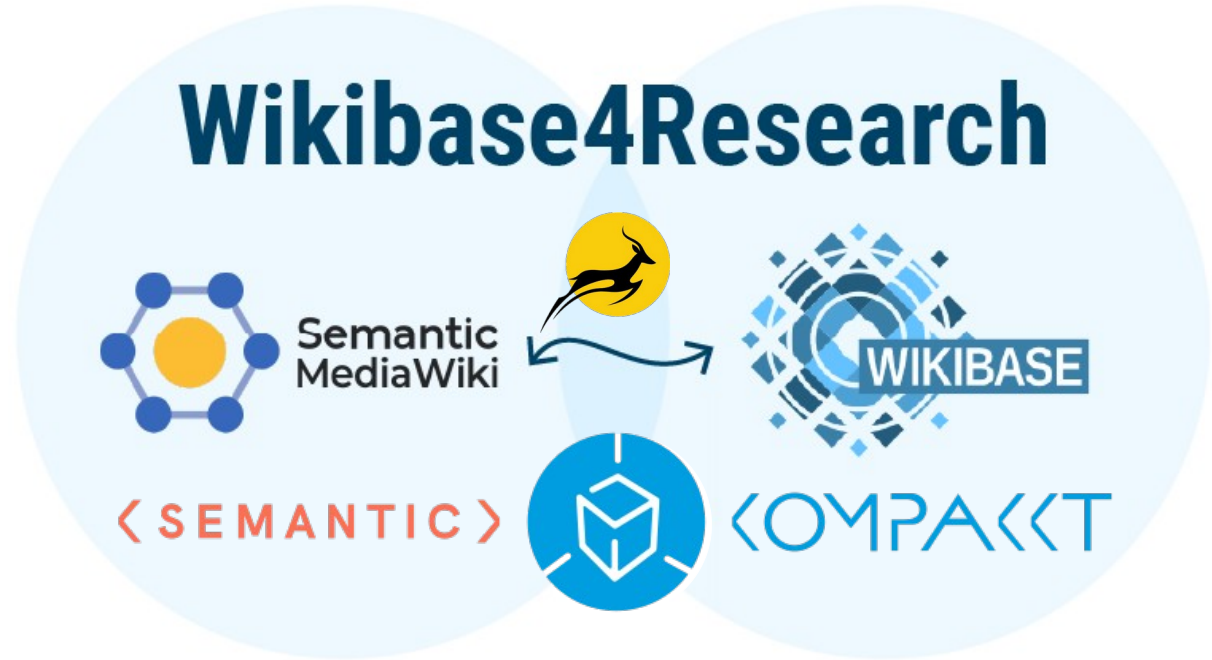
Computational publishing service

Use jupyther notebooks to publicate directly from wikibase
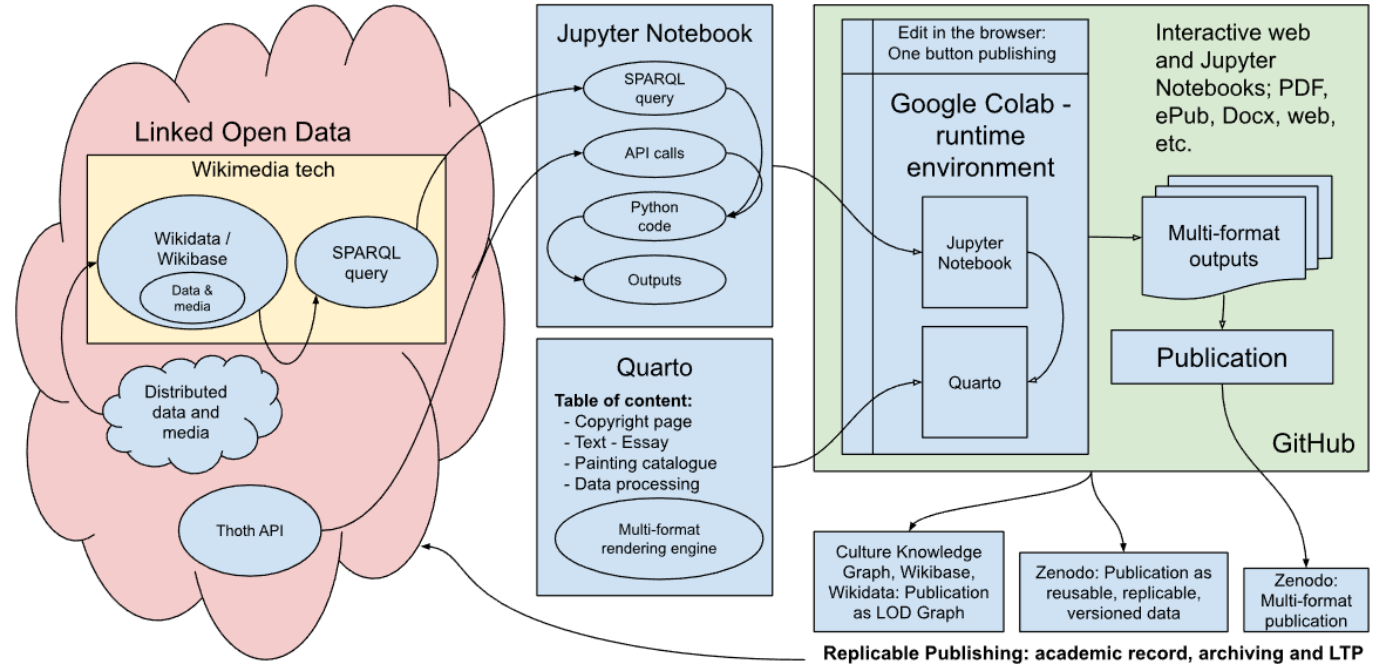
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Outlook

- Seamless Integration between Wikibase / ANTELOPE

- Integration of TS4NFDI

- Customizable AI Models

- Chatbot and LLM integration

- 3D image recognition in semantic kompakkt

Wikibase4Research
https://gitlab.com/nfdi4culture/wikibase4research/wikibase4research

ANTELOPE
https://service.tib.eu/annotation

Computational publishing service
https://gitlab.com/nfdi4culture/computational-publishing-service

Open Science Lab @ TIB Hannover
Kolja Bailly