The Digital Knowledge Store

of the Berlin-Brandenburg Academy of Sciences and Humanities

Possibilitites and Challenges of linking heterogenous Humanities Research Data and Metadata

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Introduction

The Digital Knowledge Store is:

- a data research infrastructure developed by TELOTA
- initialized by the BBAW in 2009
- funded by the Deutsche Forschungsgemeinschaft (DFG) in 2011

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Presentation Overview

1. Motivation for the development of a Digital Knowledge Store

2. Current project status

3. Future development

The Motivation for a Knowledge Store

- the BBAW hosts various humanities long-term projects
- research results are published digitally and include a variety of different resource types e.g. medieval charters, ancient inscriptions, manuscripts, etc.
- the necessity of a centralized access in order to unify and connects the various resources with regard to metadata and content

Goals

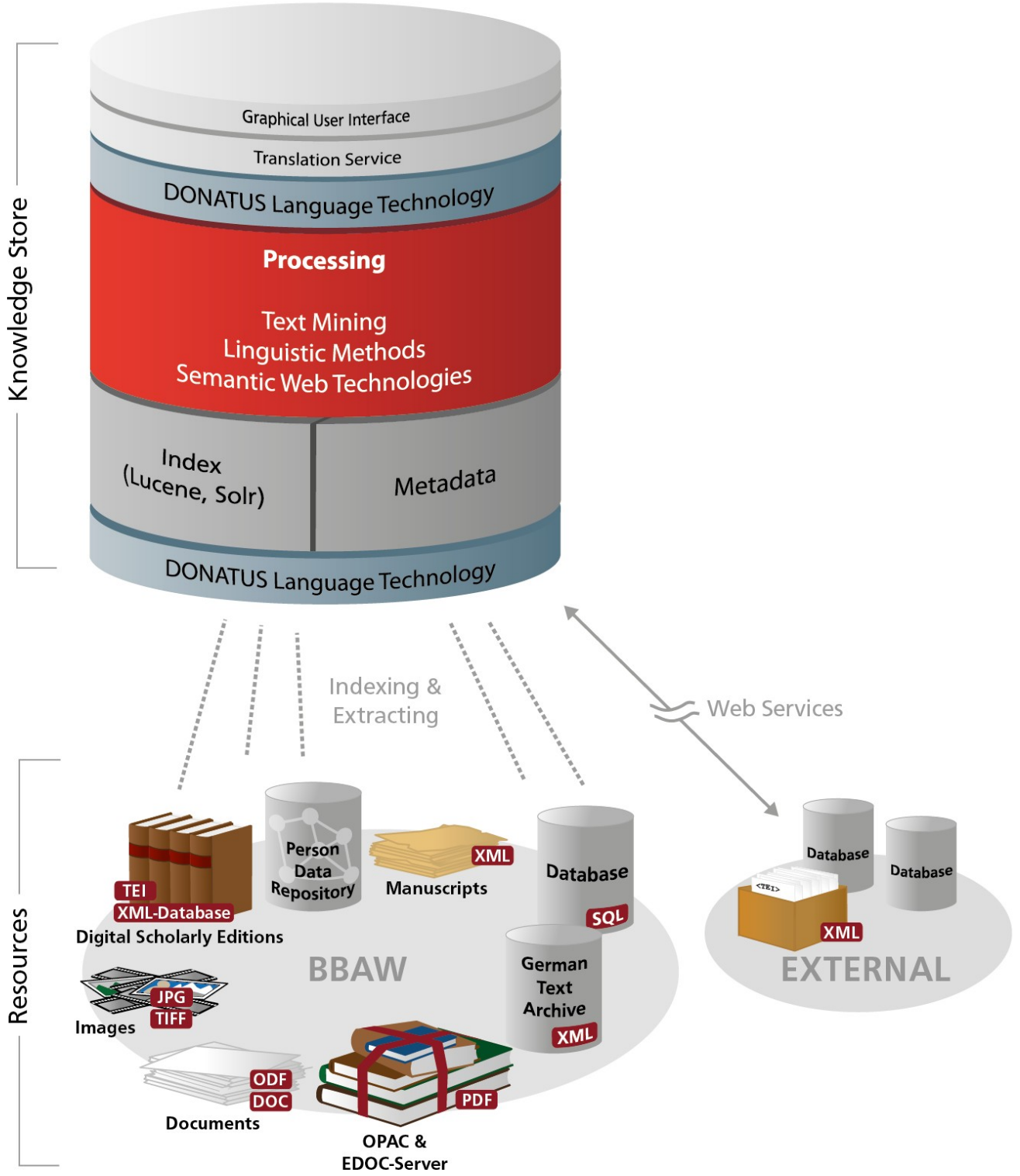
Aims to:

- offer a centralized access to all digital resources of the BBAW
- structure, organize and present knowledge online
- make implicit information explicit
- mediate knowledge online
- realize the promise of Open Access

Current Status of Develoment

- A protoype was created and first presented at DH2012 (Hamburg)
- Creation of a central index (Apache Lucene)
- Fulltext retrieval of muiltilingual resources and various formats

  (e.g. German, Ancient Greek, Arabian; PDF, HTML, XML/TEI)
- Basic semantic knowledge extraction
- DONATUS Morphology


Knowledge Store
Graphical User Interface
Translation Service
DONATUS Language Technology
Processing
Text Mining
Linguistic Methods
Semantic Web Technologies
Index
(Lucene, Solr)
Metadata
DONATUS Language Technology
Indexing &
Extracting
Web Services
Resources
TEI
XML-Database
Digital Scholarly Editions
Person
Data
Repository
XML
Manuscripts
Database
SQL
BBAW
German
Text
Archive
XML
JPG
TIFF
Images
ODF
DOC
Documents
PDF
OPAC &
EDOC-Server
Database
Database
XML
EXTERNAL

Advancements

- Improved index fields like *content abstract*, *DDC*
- 9000 Ressources integrated from 9 Projects
- A first set up for a Metadata System

Metadata System

- is set up in two ways: from automatically and 'human-' created Metadata
- modelled in a flexible Schema: OAI-ORE
- BBAW-projects identifiable by the use of named graphs

Metadata System

- embedded in the *Default Graph* the resources exist/are available as a semantic net
- a base for the representation of linked and (in regards to content) overlapping resources
- Software components like Sparql-Adapter or Concept-Identifier allow powerful querying

Modelling Metadata in OAI-ORE

- Why OAI-ORE?
- Problems in modelling with OAI-ORE

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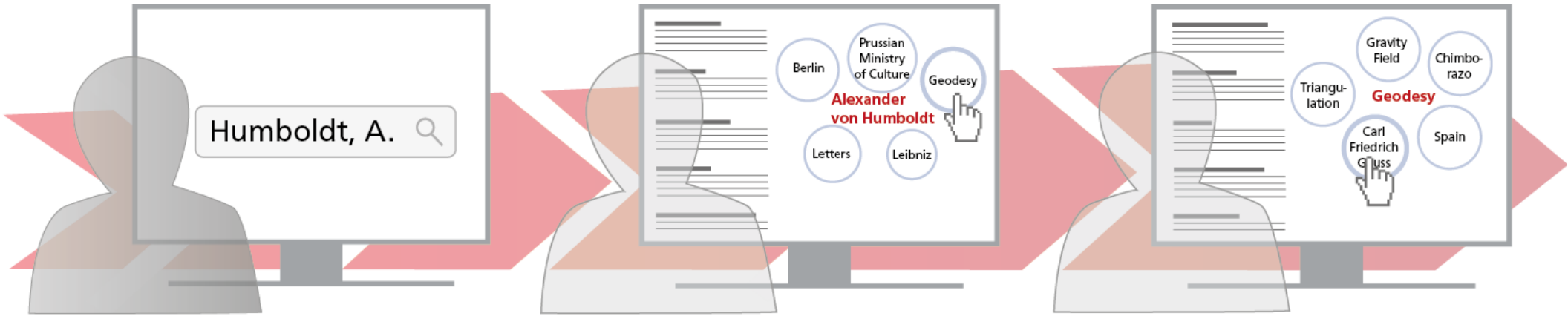
Current areas of development

- Knowledge Browsing
- Modelling in OAI-ORE
- Combining Metadata and Full Text

Future development

- „Knowledge Browsing”

  extends the research results by offering semantic recommendations



- the process of searching as an interaction between contents and user

Future Development

- Creation of knowledge domains by:
  - Automated semantic interpretation
  - Evaluation of previous search results
  - Feedback and statistical evaluation