BauDenkMalNetz – Creating a Semantically Annotated Web Resource for Historical Buildings

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Introduction

- **BauDenkMalNetz** $\rightarrow$ "listed buildings network"
- a web portal for discovering Bremen's architectural landscape that is suited for the tech-savvy tourist
- based on a series of guide books by Dr. Nils Aschenbeck
- 4 books, more than 100 buildings

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An **n-gram model** refers to a probabilistic model that, given the first $n-1$ words in a sentence, will predict the n^{th} word.

n-gram Analysis

Groups of words most likely to appear together:

- physical buildings

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Groups of words most likely to appear together:

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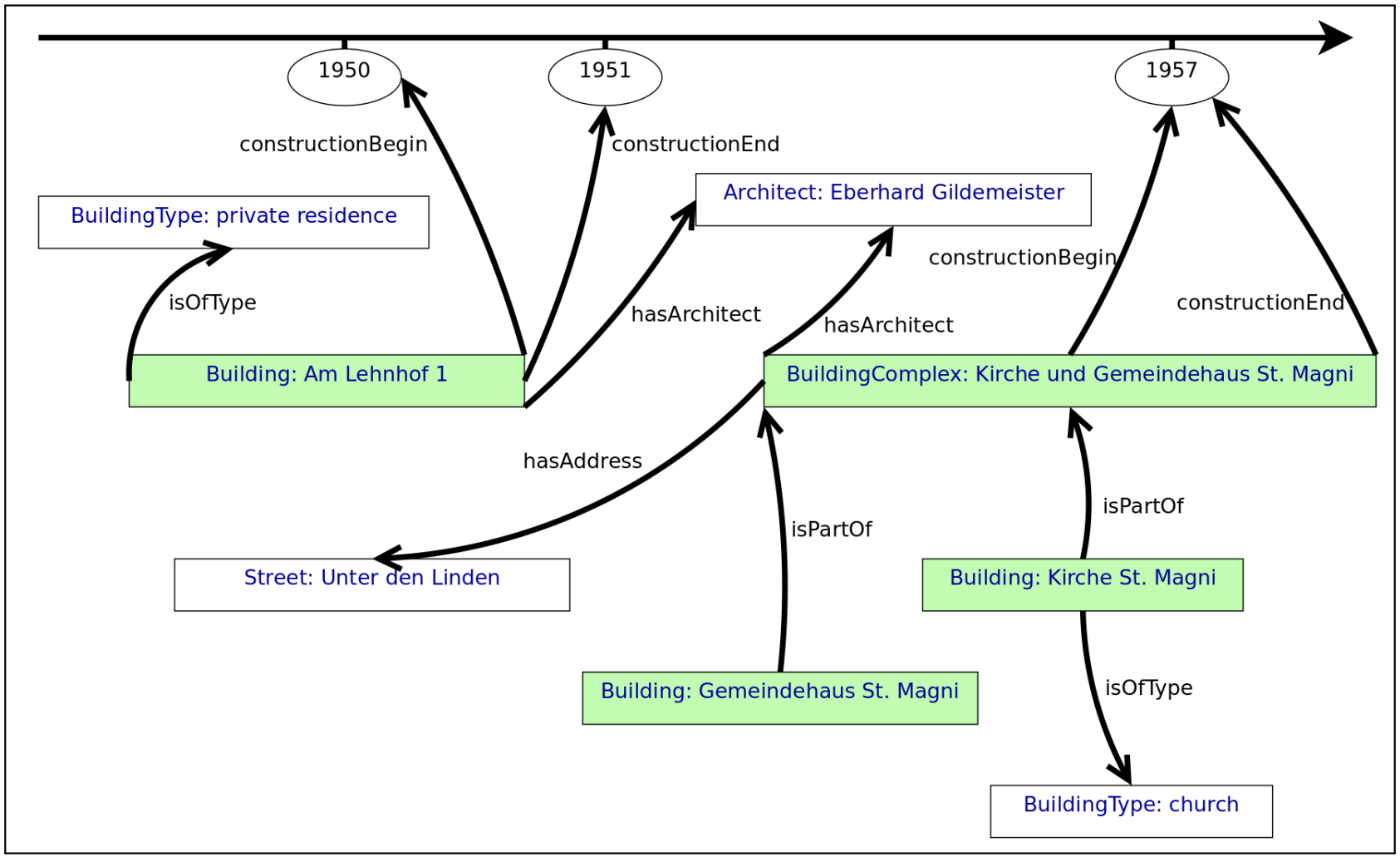
- human-readable addresses
- building features

The BDMN Ontology



Choosing a Deployment Environment

- **Semantic content management systems:** Semantic MediaWiki, Drupal 7.

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- Requirements:
  1. possibility of integrating ontologies;
  2. browsing based on the semantic metadata;
  3. support for querying the RDF;
  4. possibility of importing large amounts of text.

Drupal 7 Modules

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- **GMap** – for Google Maps visualization.

Evaluation

- Evaluation criteria: **usability** and **usefulness**.
- Task-based evaluation – users were presented with an assignment that they had to solve.
- Results:
  - 100% success in solving the task
  - user suggestions: integration with social networking platforms, enhanced map visualization...

Future Work

Definition

XSPARQL: XML results to queries over RDF, RDF data from XML documents;
KML: XML notation for representing geolocation, used by Google Earth.

Example

Use XSPARQL queries over RDF to return KML data that can be visualized in Google Earth.

Conclusion

- **Aim:** to develop a web portal that publishes printed text about Bremen's architecture.
- **How it was accomplished:** creating an ontology, creating a Drupal 7 website with pages mapped to the ontology, enhancing its functionality with semantic queries.
- **Future work:** semantic geolocation, reusing the ontology / reapplying the methodology for similar web resources...

Thank you for your attention!