



Topic for Bachelor's / Master's Thesis

In the department of computer science / research group of database and information systems, we offer the following topic for a bachelor's / master's thesis:

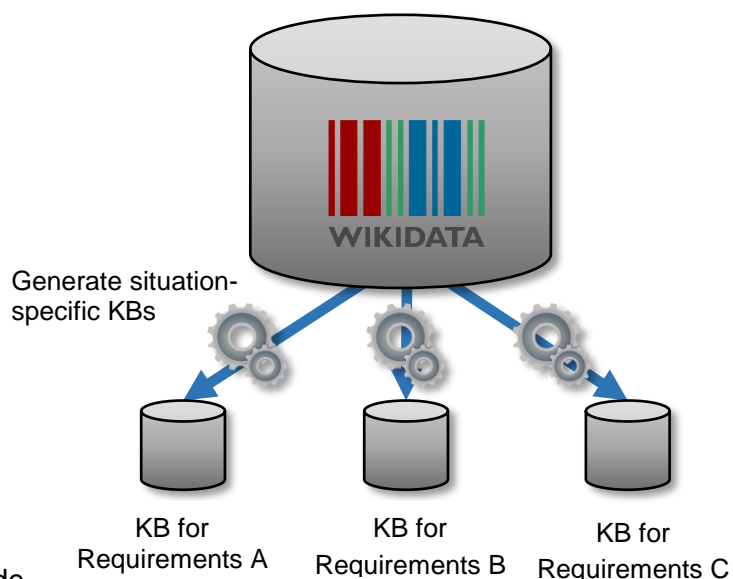
Constructing Situation-Specific Knowledge Bases

Motivation

Today's knowledge bases such as DBpedia, Wikidata or Yago contain millions of entities which are organized in large and complex type hierarchies. However, many applications only require a small part of the knowledge base and have special requirements on its type hierarchy, granularity, and schema. For example, a stock broker might be interested in companies, their relations and a meaningful categorization of companies, a car manufacturer is interested in all car-related entities, and a developer of a flight booking service is interested in all flight-related entities. Additional requirements originate from the concrete use cases, e.g., a stock broker using the knowledge base for *text mining* might have other requirements than a car manufacturer using the knowledge base to *enhance search results* on its website or a cloud provider using the knowledge base for *semantic service matching*.

Description of the Task

- Identify and describe important scenarios for which a situation-specific knowledge base is required (only one scenario for bachelor's thesis)
- Identify the requirements that emerge from those scenarios
- Develop an approach to adapt an existing knowledge base to those requirements (e.g., compute a subset of the knowledge base and refactor the schema and type hierarchy, more sophisticated approach for master's thesis)



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