QALD-7
Question Answering over Linked Data Challenge

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QALD-7 @ ESWC 2017
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HOBBIT
Holistic Benchmarking of Big Linked Data

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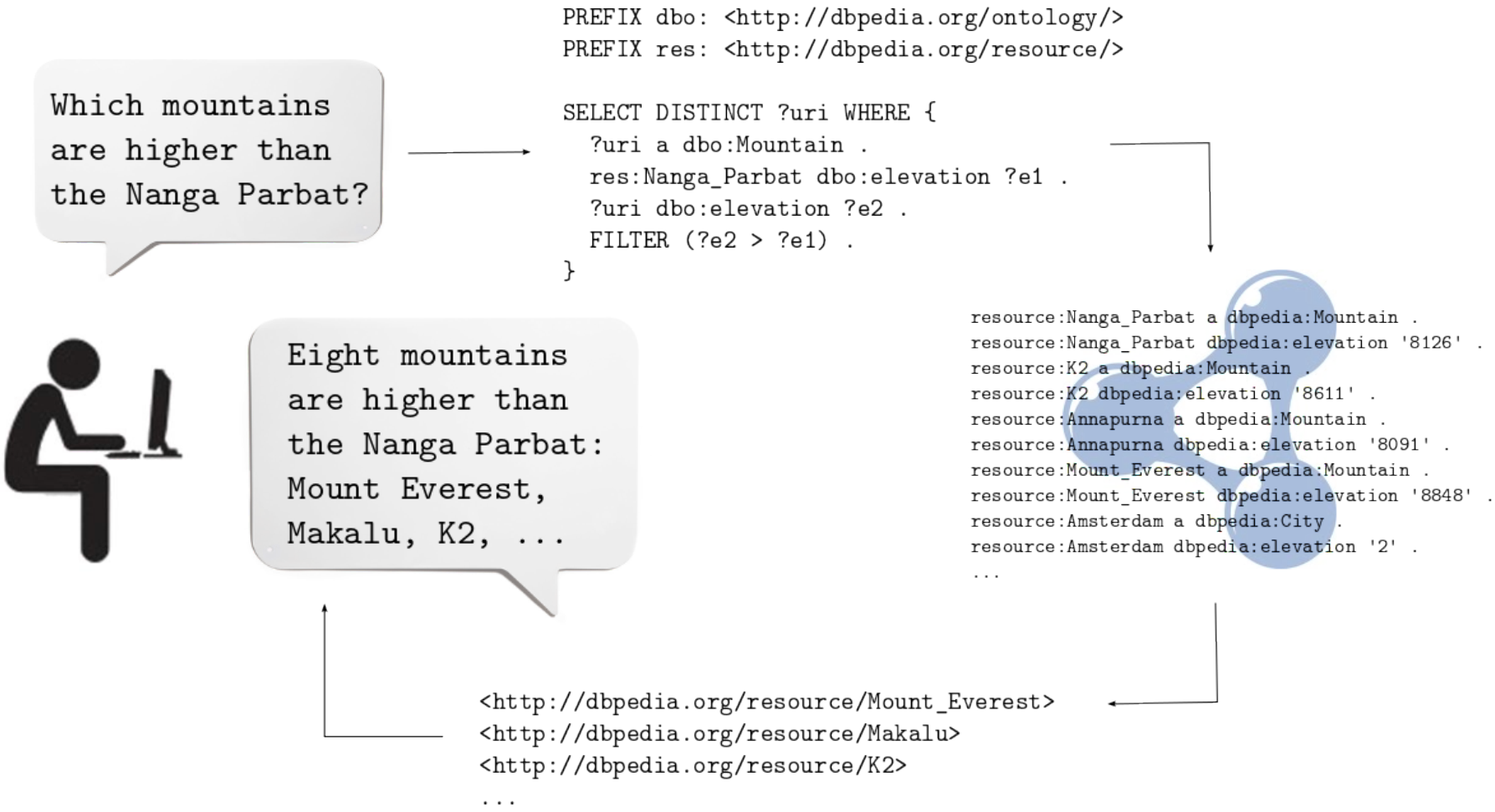
Question answering systems mediate between

a user expressing an information need in *natural language*

and *RDF-modelled* data



QALD is a series of evaluation campaigns that provide a benchmark for comparing different approaches and systems

- get a picture of their strengths and shortcomings
- gain insight into how we can develop approaches that deal with Semantic Web data as a knowledge source

QALD-1 @ ESWC 2011 (3)

QALD-2 @ ESWC 2012 (4)

QALD-3 @ CLEF 2013 (6)

QALD-4 @ CLEF 2014 QA track (9)

QALD-5 @ CLEF 2015 QA track (7)

QALD-6 @ ESWC 2016 (13)

QALD-7 @ ESWC 2017 (3)

Overall task Given a natural language question, retrieve the correct answer(s) from a given RDF repository.

Types of challenges (specific tasks):

- Multilingual
- Hybrid
- Large scale
- Wikidata

Task 1 - Multilingual questions

Dataset: DBpedia 2016-04 (with multilingual labels)

Questions: 215 training, 50 test

- provided in 8 languages: English, German, Spanish, Italian, French, Dutch, Romanian, Farsi
- can be answered with respect to the provided RDF data
- annotated with corresponding SPARQL queries and answers

Challenge: Lexical and structural gap between natural language expressions and data, e.g.

- high $\rightarrow$ `elevation`
- have inhabitants $\rightarrow$ `populationTotal`
- graduate from $\rightarrow$ `almaMater`

Example

Which book has the most pages?

Welches Buch hat die meisten Seiten?

Quale libro ha il maggior numero di pagine?

Quel livre a le plus de pages?

¿Que libro tiene el mayor numero de paginas?

...

Dataset: DBpedia 2016-04 (with free text abstracts)

Questions: 105 training, 50 test

provided in English

can be answered only by integrating structured data (RDF) and unstructured data (free text abstracts)

annotated with pseudo-queries and answers

Challenge: find information in several sources, process both structured and unstructured information, and combine them into one answer.

Example

Who is the front man of the band that wrote Coffee & TV?

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```
PREFIX res: <http://dbpedia.org/resource/>
PREFIX dbo: <http://dbpedia.org/ontology/>
SELECT DISTINCT ?uri
WHERE {
        res:Coffee_&_TV dbo:musicalArtist ?x .
        ?x dbo:bandMember ?uri .
        ?uri text:"is" text:"frontman" .
}
```

`http://dbpedia.org/resource/Damon_Albarn`

Dataset: DBpedia 2016-04

Questions: 100 training, 2M test

provided in English

automatically generated

questions sent every minute, *n+1* questions asked at minute *n*

Challenge: deal with high volume requests in a short time

Dataset: Wikidata 2017-01

Questions: 100 training, 50 test

provided in English

questions based on DBpedia but performed on Wikidata

Challenge: formulate generic approaches, adapting to new data sources

Dennis Diefenbach, Kamal Singh, Pierre Maret
WDAqua-core0: A Question Answering Component for the Research Community
Task 1 and Task 4

Nikolay Radoev, Mathieu Tremblay, Michel Gagnon, Amal Zouaq
Answering Natural Language Questions on RDF Knowledge base in French
Task 1

Daniil Sorokin, Iryna Gurevych
End-to-end Representation Learning for Question Answering with Weak Supervision
Task 4

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Thank You!

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