ifis

Institut für Informationssysteme
Technische Universität Braunschweig

Are Qualifiers Enough?
Context-Compatible Information Fusion
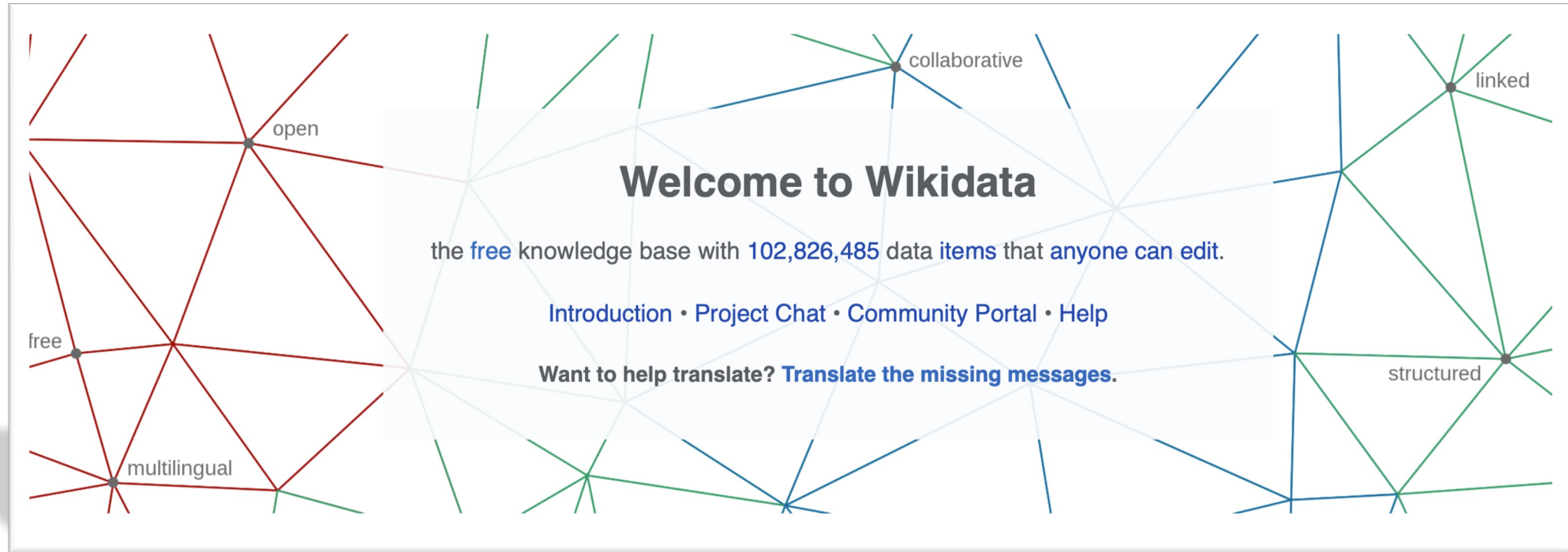# for Wikimedia Data

@WikiWorkshop2023

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Wikidata

Knowledge Base

free   **open**   **collaborative**
        linked   **structured**   **multilingual**

Wikidata Items

Earth (Q2)

third planet from the Sun in the Solar System

Planet Earth | the Earth | World | the World | Gaia | Terra | the globe | Sol III

▼ In more languages

Configure

Language	Label	Description	Also known as
English	Earth	third planet from the Sun in the Solar System	Planet Earth the Earth World the World

Statements

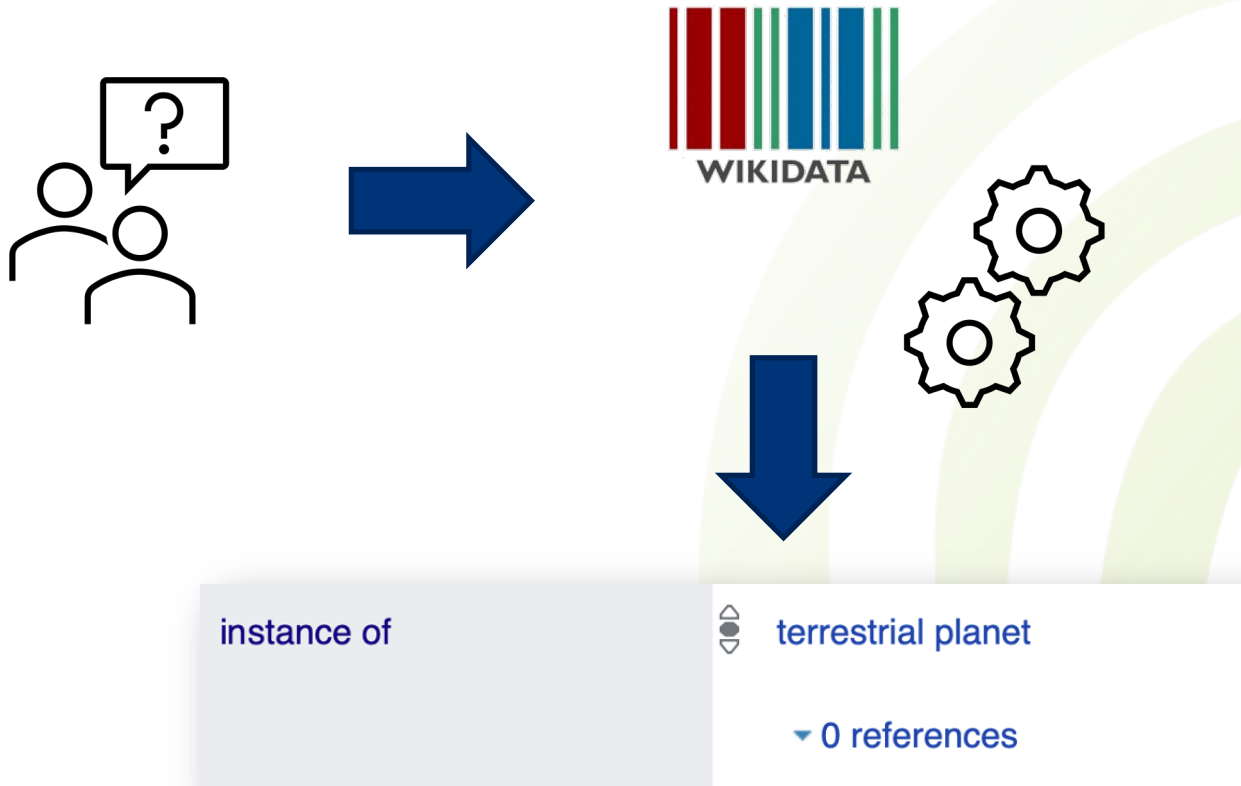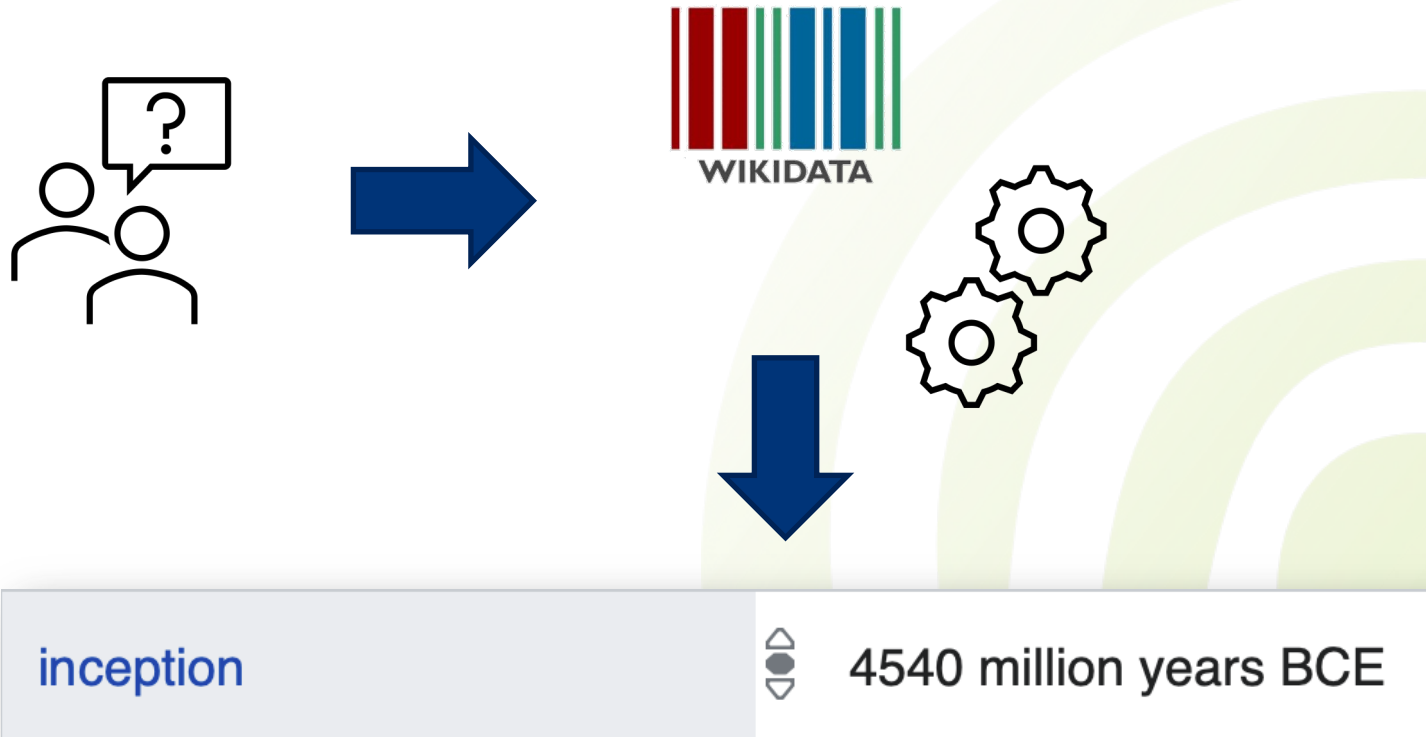| instance of	terrestrial planet
	▼ 0 references
	inner planet of the Solar System
	▼ 0 references
	geographic region
	▼ 0 references

Automatic Usage of Wikidata

- We may ask questions through **SPARQL**
  - Hey Wikidata, what is the earth?

Automatic Usage of Wikidata

- We may ask questions through **SPARQL**
  - Hey Wikidata, how old is the earth?

| inception | | 4540 million years BCE |

Qualifiers

Automatic Usage of Wikidata

- What was the population of Leningrad?

Saint Petersburg (Q656)

federal city in and former capital of Russia

St. Petersburg | Petrograd | Leningrad | Petersburg | Sankt-Peterburg | St Petersburg

▾ In more languages
Configure

Language	Label	Description
English	Saint Petersburg	federal city in and former capital of Russia

official name

Leningrad (German)

　　start time　　　　　26 January 1924 *Gregorian*

　　end time　　　　　5 September 1991

　　▾ 0 references

population

960,000±1,000

　　point in time　　　　1922

　　▾ 0 references

1,093,000±1,000

　　point in time　　　　1923

　　▾ 0 references

1,221,000±1,000

　　point in time　　　　1924

　　▾ 0 references

Context-Compatible Information Fusion

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point   22

▼ 0 references

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poi   3

▼ 0 references

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▼ 0 references

Context-Compatible Information Fusion

- Every **statement** is only valid in its **context**
  - **Some** statements might be **valid in general** (e.g., birth dates)

- **Context-compatible** information fusion combines only statements that are **valid in compatible contexts**

Explicit and Implicit Contexts

- **Explicit context** model every relevant condition:
  - Qualifiers like point in time, location, determination method, etc.
  - But we require **rules** to **automatically** utilize them

- We introduced **implicit contexts**
  - A written narrative (e.g., scientific article) usually includes all relevant context conditions

Conclusion

- Are **qualifiers** in Wikidata **enough** for a
  reliable **context-compatible** information fusion?

- The answer is open…
  – Geo-spatial/temporal contexts might work with qualifiers
  – However, what about **viewpoints**, **assertions**, **beliefs** and **negations**?

inception		4540 million years BCE
	determination method	lead-lead dating
	statement is subject of	age of the Earth
	statement disputed by	Young Earth creationism
	▼ 1 reference	
	stated in	The age of the Earth in the twentieth century: a problem (mostly) solved

Thank You!

**FACHINFORMATIONSDIENST
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If you have any questions, contact me via:

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