Fraunhofer

IAIS

AskNow
QUESTION ANSWERING SOLUTIONS

ASK YOUR DATA AND GET INTUITIVE ANSWERS IN RETURN

A core part of decision-making processes involves the meticulous collection of relevant knowledge, from within the organization as well as from the Web. In most cases our searches simply retrieve lists of documents to review, while what we need are more intelligent information systems which respond quickly with precise answers.

At Fraunhofer IAIS, we are developing state-of-the-art technologies to solve this very problem: making information access intuitive.

AskNow, our question answering solution, is capable of retrieving answers from heterogeneous data, as a response to factual questions asked in natural language. Through seamless interfacing between humans and knowledge, easy configurability and high performance, AskNow goes to great lengths to boost the efficiency and productivity of your enterprise.

As a result, different industries can benefit from using AskNow: as a supportive module for customer service in telecommunication companies, as an integrated part of in-car systems in the automotive industry and likewise in countless public sector portals, just to mention a few examples.
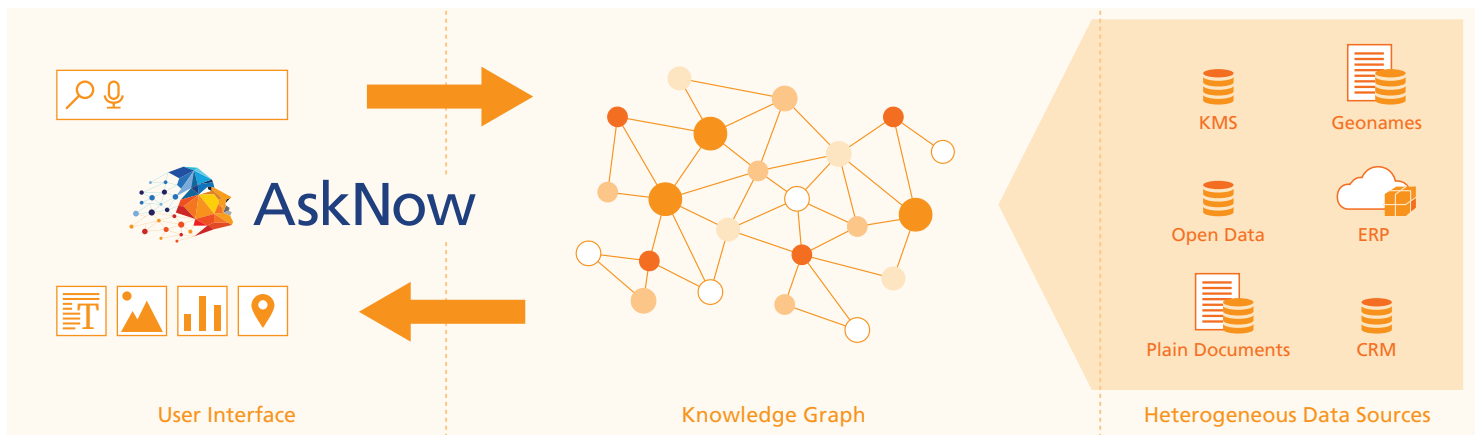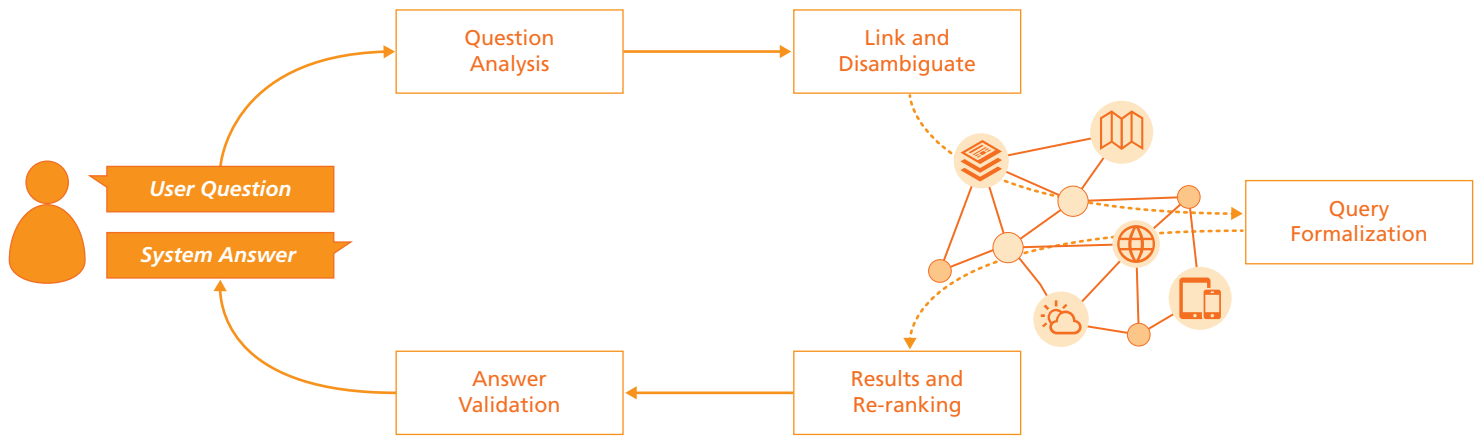
THIS IS HOW OUR QUESTION ANSWERING SYSTEM WORKS

To understand natural language and return relevant answers, AskNow applies intelligent analysis techniques, built on Deep Learning as well as semantic parsing-based approaches.

We begin by structuring data and knowledge into a noise-free knowledge graph. To do so, we go through the available resources and find the entities and the relationships between them. Additional ontologies may also be linked as a coherence layer, to cover different aspects of the content and apply an industry-ready structure to it. Thereafter, AskNow can interact and communicate with the knowledge graph and answer factual questions, which refer to the facts expressed there.

We look forward to having AskNow embedded into various enterprise information systems, solutions and services and letting it improve reactively, by learning during its use to give more contextually relevant answers.

CONCEPT AND WORKFLOW OF THE ASKNOW QUESTION ANSWERING SYSTEM

Question Analysis → Link and Disambiguate → Query Formalization

User Question

System Answer

Answer Validation ← Results and Re-ranking

User Interface

AskNow

Knowledge Graph

Heterogeneous Data Sources

KMS
Geonames
Open Data
ERP
Plain Documents
CRM

OUR OFFER

AskNow is capable of answering questions over the knowledge that enterprises generate and accumulate. It focuses on domain-specific knowledge and terminologies, as well as external – structured and unstructured – data sources. AskNow requires minimal user interaction, supports multilingualism and integration with dialogue systems.

- State-of-the-art question answering solution for a defined scope.
- Developing domain-specific vocabularies and adopting internal and external ontologies.
- Applying intelligent analysis techniques, including Deep Learning and Semantic Parsing.
- Expandable to automatic knowledge extraction, named entity recognition (NER) and information extraction (IE) for self-training systems and self-expanding knowledge.
- Performance measuring, results-based monitoring and re-evaluation activities.

Artificial Intelligence and Semantic Data Technologies

Fraunhofer IAIS is working closely with industrial partners in developing state-of-the-art technologies and excellent solutions. Our Artificial Intelligence technologies combined with Semantic Data have proved their application in accessing, linking and searching data to enrich the IT capacity of many organizations. Through our participation in the HOBBIT Project[1], we have also developed benchmark metrics and tools for QA systems, shaping the future of search engines. HOBBIT aims at abolishing the barriers in the adoption and deployment of Big Linked Data by European companies.

Publications

- "Neural Network-based Question Answering over Knowledge Graphs on Word and Character Level" D. Lukovnikov, A. Fischer, J. Lehmann, S. Auer, WWW 2017: 1211-1220.
- "LC-QuAD: A Corpus for Complex Question Answering over Knowledge Graphs" P. Trivedi, G. Maheshwari, M. Dubey, J. Lehmann, ISWC 2017: 210-218.
- "Why Reinvent the Wheel – Let's Build Question Answering Systems Together" K. Singh et. al., WWW 2018.

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CONTACT

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