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Establishing and Extending Open Services for the Scholarly Community: The Bielefeld Academic Search Engine (BASE) use case

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Starting as a library-orientated search engine around 2004 BASE has integrated many new open services and issues upcoming in the academic information network. Very soon the application switched from ingesting database contents to collecting scientific metadata via the OAI-PMH protocol. The open access movement represented and supported by institutional repositories driven by numerous university units and community-based services as PubMed, arXiv or RePEc has brought up a solid fundament of valuable open accessible bibliographic metadata with related full texts.

BASE is aiming to integrate with API based value added services, such as the persistent citation linking service Crossref and the research data registration agency DataCite, both based on the concept of the DOI. In the context of the DFG funded project ORCID-DE BASE extends its service portfolio to address author identification by connecting the ORCID with author and contributor names in repository metadata.

Data normalization and curation together with linked open data strategies are used to improve the metadata quality and to enrich the metadata. Additional scientific material as digital collections with digitized material such as books, images and other source material, research data, current research information, conference proceedings, the contents of publishing services and open educational resources with a global scope.

Due to local cooperation activities innovative features such as an automatic classification tool (developed by the Computer Linguistic Group of Bielefeld University) has been developed and a search environment based on virtual reality technology (in cooperation with CITEC, Cluster of Excellence Cognitive Interaction Technology of Bielefeld University) is currently explored.
On the other hand BASE supports the scholarly communication infrastructure in a bi-directional approach. All the collected and enriched data are available via a search API and a metadata delivery API based on the OAI-PMH protocol which allows all interested non-commercial stakeholders to re-use the data. Around 200 partners, mainly with an academic background from all around the world, are using these interfaces.

Today BASE has indexed more than 115 mill. scientific objects from more than 5800 academic resources from all around the world. The service is globally available and is a strong partner in a network of academic information services and heterogeneous partners as libraries, academies, publishers, scientific organizations, institutes and hosting services. This strategy includes the alignment with several national and international projects in the field of information management such as OpenAire, ORCID-DE and Open APC-INTACT. Built on the active role in the different scopes (especially COAR, Confederation of Open Access Repositories and DINI, German Network Initiative) many contacts and cooperation activities have evolved with different partners. This position allows to share expertise and analytic views of the global information network infrastructure.

The presentation describes the implementation of an application using available resources in the open science network with the focus on including scientific publications and related objects. It will address especially researchers interested in supporting tools, librarians and technicians involved in building information retrieval applications and the re-use of related interfaces.

Type of abstract

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Topic Area

Interoperability

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