

Leveraging an open infrastructure to enable visual discovery in library systems: the case of Open Knowledge Maps

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Abstract:

The coronavirus pandemic has highlighted a host of issues with the current scholarly communication system, including the discoverability of scientific knowledge. But it's not only COVID-19 research that's difficult to keep track of: with millions of papers, datasets, and many other products of the research lifecycle published each year, discoverability has become a question not only of managing the magnitude of the output, but also a multitude of output types.

Common search engines providing unstructured result lists are not up to the task: they offer neither an overview of the results nor the necessary context information to be able to evaluate resources correctly. In addition, many of the large web-based search engines are closed systems that are not well interconnected with libraries' repositories and discovery tools. As such, they are hiding valuable local information and services behind an invisible curtain.

Open Knowledge Maps attempts to transform discovery of scientific knowledge by providing a open, visual, and community-driven system that is based on open infrastructure. Instead of lists, we propose to use knowledge maps for discovery. Knowledge maps provide an instant overview of a field by showing its main areas at a glance and papers related to each area. This makes it possible to easily identify useful,

pertinent information. Based on this idea, the charitable non-profit operates the world's largest visual search engine for research.

With BASE as its main data source, Open Knowledge Maps builds on library infrastructures and increases the visibility of the content contained therein, e.g. from institutional repositories of research institutions. This includes many sources and document types that are not indexed by commercial products, making the service ideal for specialized collections that research libraries maintain in large numbers.

In this contribution, we present a novel model that connects Open Knowledge Maps back to library systems and makes it possible to add custom visual discovery services to their offerings. In this model, Open Knowledge Maps acts as a cloud, so there is no need to install new software on library servers. Similar to Google Custom Search, libraries will be able to embed Open Knowledge Maps discovery services via short snippets in their systems.

Libraries can set individual parameters, including the ability to restrict the visual discovery to their own holdings, provided that they are indexed in BASE. Each knowledge map has a PID and can in turn be embedded in other websites, e.g. for presentation and dissemination purposes.

As all of Open Knowledge Maps' offerings, the custom services will be provided free of charge and as an open infrastructure. To fund and sustain this infrastructure, we operate a crowdsourcing model: libraries become supporting members of Open Knowledge Maps and provide an annual contribution. In return, the supporting members become part of the organisation's governance and are directly involved in the decision-making process by way of the Board of Supporters. The Board of Supporters provides input on the technical roadmap and has one third of the vote on what features and sources are implemented on Open Knowledge Maps.