Finnish National Digital Library – one-stop shop for libraries, museums and archives

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The Finnish National Digital Library (NDL) project is a national project which improves online accessibility with a one-stop shop Public Interface for digital resources held by libraries, museums and archives in Finland.

Meta search and social media functionality

The Public Interface offers digital resources on cultural heritage, research and teaching through a single service. Currently, the end-user has to use several different services when searching for information.

In contrast to the traditional metasearch (real time online search) common in most research portals, the Public Interface service is based on centralized indexing. The index based searches are fast, and the results can be arranged to suit the end-user's needs, for instance, by facets such as content type or organization.

It will also be possible to integrate search functions into electronic learning environments, social network services and other e-Environments. Organizations can offer various customized views for different user-groups and end-users will also have personalized services. The Public interface also provides social media functionality such as tagging and reviewing. Also, authenticated end-users will have their own personalized services.

35 participating organizations

The project was funded by the Ministry of Education. A total of 35 organizations were involved in the project. The Finnish library network consists of libraries at higher education institutions (17 university and 26 polytechnic libraries), 20 regional libraries and 342 municipal libraries, 50 major special libraries, the National Library and the National Repository Library.

The National Archives and seven provincial archives comprise the National Archives Services subordinated to the Ministry of Education. Additionally, there is a large group of other administrative, special and private archives. A significant amount of essential cultural heritage is also preserved within collections of private and business archives.

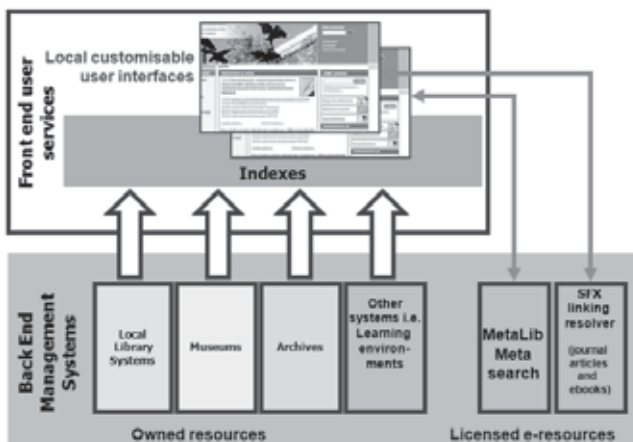There are three museums at the national level:

Figure 1: Functional principle and architecture of the Public Interface; the user interface separated from back-end systems
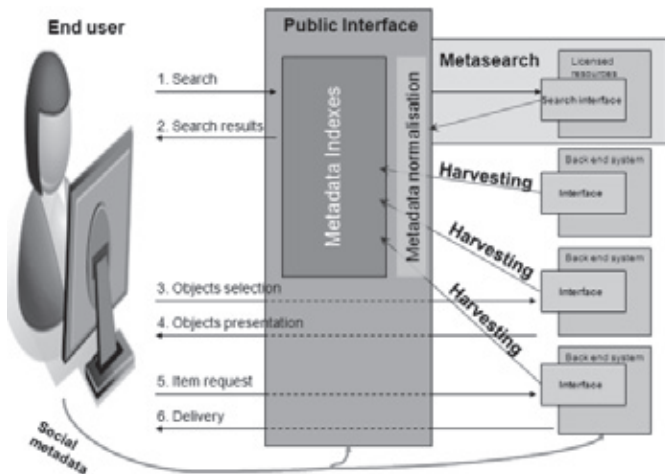
Figure 2: Public Interface integration, APIs and processes

the National Museum of Finland under the National Board of Antiquities, the Finnish National Gallery and the Finnish Museum of Natural History. Additionally there are 165 professional museums comprising of 22 provincial museums, 16 regional art museums, 14 national specialized museums and various municipal museums.

The service will initially contain 50 million database references, hundreds of thousands of museum objects and photographs, more than 1.3 million newspaper pages, over 20,000 scientific journals, over 300,000 e-books, hundreds of thousands of documents and several million pages of digitised archive materials.

Metadata harvesting and meta searches

The architecture is based on the idea of separating the user interface from back-end systems. The operational principle is to keep cataloguing data and documents in the back-end systems. Metadata is automatically harvested from the back-end systems, normalized and indexed in the Public Interface to enable easy and fast retrieval.

Harvesting is based on standard interfaces, such as OAI-PMH, and additional interfaces can be built between different systems when necessary. Licensed electronic resources will be used via a centralized hosted index. The Finnish libraries use Primo Central Index by Ex Libris for this purpose

which is integrated into the Public interface. The e-resources which cannot be indexed will be retrieved using meta searches (also called federated searches).

Services provided by back-end systems (e.g. loan renewals and image and hold requests) are being integrated into the Public Interface but this requires separate APIs both on the front-end and the back-end systems (Figure 2).

Other external third party services can also be integrated into the Public Interface. Records can be enriched via book cover images from Google Books and LibraryThing and customers can create reference lists with an integrated reference management tool (RefWorks, Zotero etc.). Records and record lists can also be exported to virtual learning environments.

There are three levels of user identification in the Public Interface: anonymous use without requiring the user to log in, weak identity (e.g. OpenID) and strong identity authentication service that can verify the end-user's identity. 📖

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