



Public Interface FINNA

From Closed Systems to Open Source Solutions

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Outline

- What Public Interface Finna is all about.
 - Linkage to the National Digital Library.
- Open Source Software solution.
- Customer-driven development.
- Benefits of Finna.
- Summing it all up.



The Public Interface FINNA

Users can:

- Search information from archive, library and museum systems and databases.
- Retrieve materials, such as pictures, documents, newspapers, research documents, video and audio recordings.
- Access digital services, such as renew loans, buy pictures and order documents.

One user interface, multiple end-user views and services:

- National view for all content.
- Local and sector specific views (e.g. museums' view).
- Institutions' own views.

National Digital Library of Finland

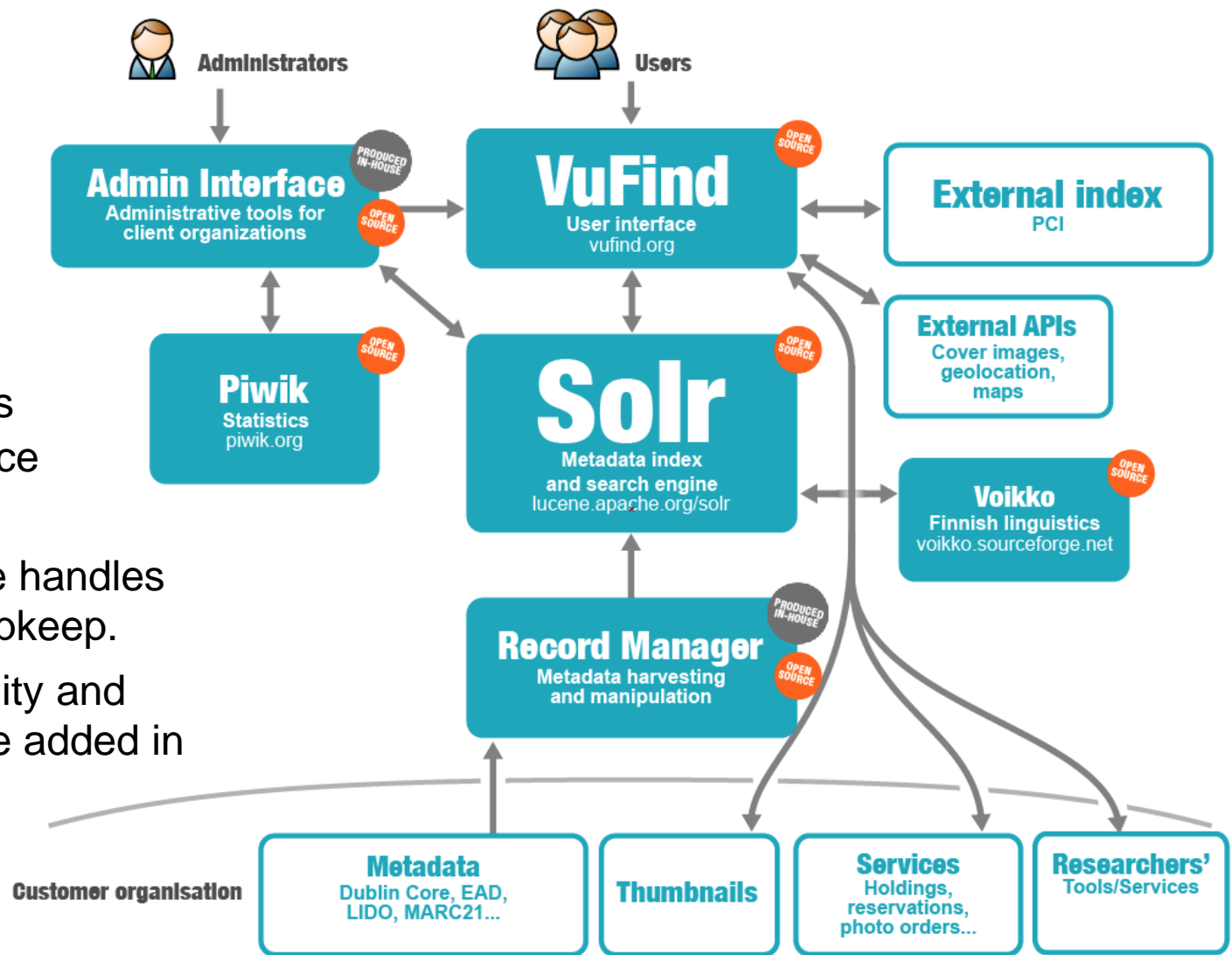
National Digital Library consists of:

- **Common user interface Finna** for the information resources of libraries, archives and museums (version 1.0 22.10.2013).
- **Digitisation** of the most essential cultural heritage materials of libraries, archives and museums.
- Development of a **long-term preservation solution** for electronic cultural heritage materials (in planning phase).
- In addition, National Digital Library works as an **aggregator** for the European Digital Library **Europeana**.

Software Architecture of Finna

- Finna is based on several software modules that are integrated together; therefore new modules can be added to the system if necessary
- Finna consists of two **main parts**:
 - End users' national interface or portal
 - Archives', libraries', and museums' administrator tools
- Main modules of the Finna system are:
 - End users' interface based on VuFind VuFind (vufind.org, license GPL v2)
 - Administrator panel for organisations, customisation and statistics (own production based on Zend Framework, framework.zend.com, license BSD)
 - Search engine Solr (lucene.apache.org/solr, license Apache)
 - Metadata harvesting and processing module RecordManager (own production, github.com/KDK-Alli, license has not been decided)
 - Finnish linguistics module Voikko (voikko.sourceforge.net, license GPL v2)
 - External index: Primo Central Index at the moment
 - External APIs to different organizations systems, e.g. Voyager and soon Axiell

- VuFind's role as the user interface is central.
- Admin interface handles statistics and upkeep.
- More functionality and modules can be added in the future.
- Finna's demo: www.finna.fi



The Drivers of Open Source Software

(World Information Technology and Services Alliance, WITSA)

- The advent of the Internet:
 - One driver of open source development is the availability of the modern Internet to serve as a mechanism for the growth in open source development communities that are necessary for successful development and continued improvements in the programs.
- Software license cost:
 - There is a perception that open source software products cost less than products developed by companies following a closed source software development model. Both software development models are in flux today as each works to serve the needs of customers by focusing on different pricing models; licensing is only part of the total value equation.
- Flexibility:
 - Supporters frequently argue that because the source code is viewable to all, the underlying technology can be used in many innovative ways, offering a flexible platform to meet present and future software needs.
- Global innovation:
 - With many more developers able to view the source code, supporters argue that the pace of innovation is greater as the barriers to software modification are lower.
- Security:
 - Source code transparency is argued to promote more secure software because a wider group of people may inspect the software for flaws.
- Customer involvement:
 - Supporters suggest that open source development models may provide more opportunities for customer-driven innovation than the traditional proprietary approach.

"Private vs. Collective" Innovation Model

(von Hippel and von Krogh 2003)

Private investment

- Restrict access to source code
- Protect Intellectual Property Rights (IPR) via intellectual property law mechanisms: patents, copyrights and trade secrets
- Private good
- Induce innovation by fostering IPRs: companies and individuals invest in creating innovations in return for future profits (private investment&returns)
- Organization: cathedral
- Innovators: SW manufacturers
- Problems: market failure, social loss

Collective action

- Free/open access to the source code
- Free revealing of innovation: distribute knowledge
- Public good: nonrivalry, nonexcludability
- Prevent market failures: avoid social loss, benefit from spillover and network externalities effects
- Organization: bazaar
- Innovators: (sophisticated) users
- Problems: freeriding, prisoner's dilemma

"Private-Collective" Innovation Model

(von Hippel and von Krogh 2003)

- Free revealing and distribution of innovations but still retain copyrights.
- Free revealing of innovation does not represent loss, it can increase adoption and diffusion => benefits from spillover and network externalities effects.
- Open source software is information (digital product) and as such has the same characteristics as an public good (nonrivalry, nonexcludability).
- Prevents market failures: avoid social loss (why societies fund academic research?).
- Users carry out the entire innovation process: from design to distribution to field support and product improvement.

Main Principles Steering the Development of Finna

- Development is based on the **requirements** defined together with libraries, archives, and museums.
- Organisations will become users of the software in **phases**.
- Development occurs in **development cycles**.
- The services **are planned together** with the customers.
- The user interface software is based on **VuFind** and additional open source software modules.
- **National Library** is responsible of the development of the **software**.

Customer Driven Development and Finna

- Why open source software (OSS) and agile development method?
 - Value of software is in how it enhances (existing) activities or enables (more efficient) new ways of doing things.
 - Above mentioned issues rely on e.g. how easily or efficiently users can utilize the system/software in question.
 - Note that software's functionality is not enough but usability, integratability (related to openness, APIs), and customization are also important.
- Development progresses in development cycles and issues are prioritised according to users' needs.
- NDL's user interface Finna will need to continue to develop also in the future.
- Agile development methods (Scrum in this case) and OSS based development fully support ongoing, customer driven service development work.

Key Factors behind Finna's Success

- Central funding for infrastructure services.
- Tradition of collaboration especially in library domain.
- Systematic development of centralised services.
- Customer organisations involved in steering centralised services.
- Flexible, customer-driven agile development.
- High expertise of the developers.
- Software architecture is based on modular design with good APIs.
- International collaboration expedites development.

Benefits of the National Digital Library to the Society

- Improves availability of electronic information resources and services and makes their use easier.
- Strengthens cooperation across organisational and sectoral borders.
- Reduces overlapping expenses from digitisation and management, distribution, and preservation of electronic material.
- Improves interoperability, manageability, and efficiency of processes.
- Preserves the potential of cultural heritage material far into the future.



Thank you!

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