

Accident & Intention:

Open Source, VuFind,
& the Emerging Environment
for Library Technology



Presentation Overview

- The concept of “open source”
- The case for “open source” in libraries
- The story of VuFind
- VuFind demo
- Q & A

Open Source

Concept & Case



Attraction to Open Source

- Cultural Construct
- Innovation & Flexibility
- Engineering
- Economics



What is “Open Source?”

Software that is developed by an individual or group with an interest in a particular application or tool distributed in un-compiled (source) form, with no licensing fees, to a broader community that has a use for it, allowing for local development & enhancement of the source code including in many cases a means for contribution of local enhancements back to the common code base.

More on Open Source

Open Source software is not “non-commercial.”

It is often supported by commercial entities.

In distinction from proprietary software, those commercial entities neither own nor control access to the code base.

Open Source development processes can often (but not always) yield superior results to proprietary software development regimes.

Defining “the commons”

Paraphrasing the OED:

A resource held in common to its users

Lawrence Lessig’s examples:

Streets

Parks

The theory of relativity

Writings in the public domain

Yochia Benkler's definition, from *Wealth of Networks*

“Commons” refers to a particular institutional form of structuring the rights to access, use, and control resources.

It is the opposite of “property” in the following sense.

With property, law determines one particular person who has the authority to decide how the resource will be used. ...

Benkler's definition, continued

The salient characteristic of commons, as opposed to property, is that no single person has exclusive control over the use and disposition of any particular resource in the commons.

Instead, resources governed by commons may be used or disposed of by anyone among some (more or less well-defined) number of persons,

under rules that may range from “anything goes” to quite crisply articulated formal rules that are effectively enforced.

The Library as a Commons

Libraries are situated within the domain of the commons

They provide their communities with open access to intellectual and cultural resources.

No single individual controls or “uses up” the resources of a library.

Accessibility to all translates into “open stacks,” in which materials are available to any who use a particular facility.

A Provocative Conjunction

Libraries facilitate the creation of new ideas by preserving and extending the intellectual commons.

Stephen Weber, in *The Success of Open Source*:

“ Open source intellectual property aims at creating a social structure that expands, not restricts, the commons.” (p. 85)

A Foundational Claim

The cultural assumptions and social practices embedded within Open Source software are congruent and co-extensive with the values and missions of libraries writ large.

Embracing Open Source software =
Deepening & enhancing our cultural mission & social function.



An Expanded Vision

The emergence of Open Source software with the “library space” enhances the library as a center for participatory culture and collaborative enterprise.

Libraries are profoundly social: they function to put different ideas and different perspectives adjacent to each other, yielding new insights and discoveries.

Open Source software development is a powerful instance of, and rich paradigm, for this function.

Open Source Development: Some Basic Principles

Eric Raymond, in *The Cathedral & the Bazaar*, identified principles for successful OSS development. Others have extended Raymond's paradigm. Principles include:

- “Scratch an itch”
- Build on or extend what's already been done
- Modularize
- Use simple standards & methods to link components
- “Smart data, dumb code”
- Release early & release often
- “To many eyes, all bugs are shallow”

VuFind: The Inside Story

Background: Core Beliefs

- Libraries must:
- Participate in development of technology infrastructure
- Be producers not just consumers
- Build a fully collaborative environment around tools & services
- To establish technical staff models in support of these beliefs

Immediate Context

- Disillusioned with Voyager OPAC & its capabilities
- Wanted a better search experience for our Web native users
- Endeca catalog came online at NCSU
- Already built a search system for a specialized international bibliography
- Experimented with export of MARC records to XML for alternative searching

Other goals:

- Integrate library search into the design & texture of library Web environment
- Faceted search & browse
- Enhanced content
- Use common search resource across all library contexts (dream on)

Wikipedia: Faceted Search

Faceted search, also called **faceted navigation** or **faceted browsing**, is a technique for accessing a collection of information represented using a faceted classification, allowing users to explore by filtering available information

Faceted Search, cont'd.

A faceted classification system allows the assignment of multiple classifications to an object, enabling the classifications to be ordered in multiple ways, rather than in a single, pre-determined, taxonomic order. Each facet typically corresponds to the possible values of a property common to a set of digital objects.

Faceting examples

- [Home Depot Web site](#)
- [WorldCat.org](#)
- [NCSU catalog](#)
- VuFind



VuFind: Next Gen Resource Discovery

- Developed in-house in less than six months
- One programmer
- Code released as open source August '07
- Software live a National Library of Australia, January '08
- Software live at Villanova, August '08

VuFind, cont'd

- Highly modular architecture, built from common open source components: LAMP, Lucene, Solr
- SolrMARc / MARC4J
- SMARTY Template engine at presentation level
- Similar functionality to Endeca & Primo
- Growing community of collaborators & co-developers
- Rapid, iterative software development
- Big fixes & enhancements completed in days or hours
- Direct control of development roadmap
- MATC Award in December 2008 (Mellon Foundation)



vufind.org

FALVEY MEMORIAL LIBRARY
VILLANOVA
UNIVERSITY

[Villanova library Web with VuFind](http://vufind.org)

VuFind Demo