the open source landscape

Open Edge. Edinburgh. January 26th 2011

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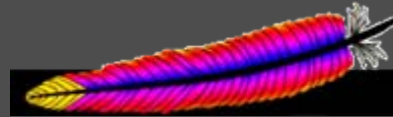# you are all familiar with open source.....right?

(certainly if you attended day 1)

you use open source already....

Linux operating system
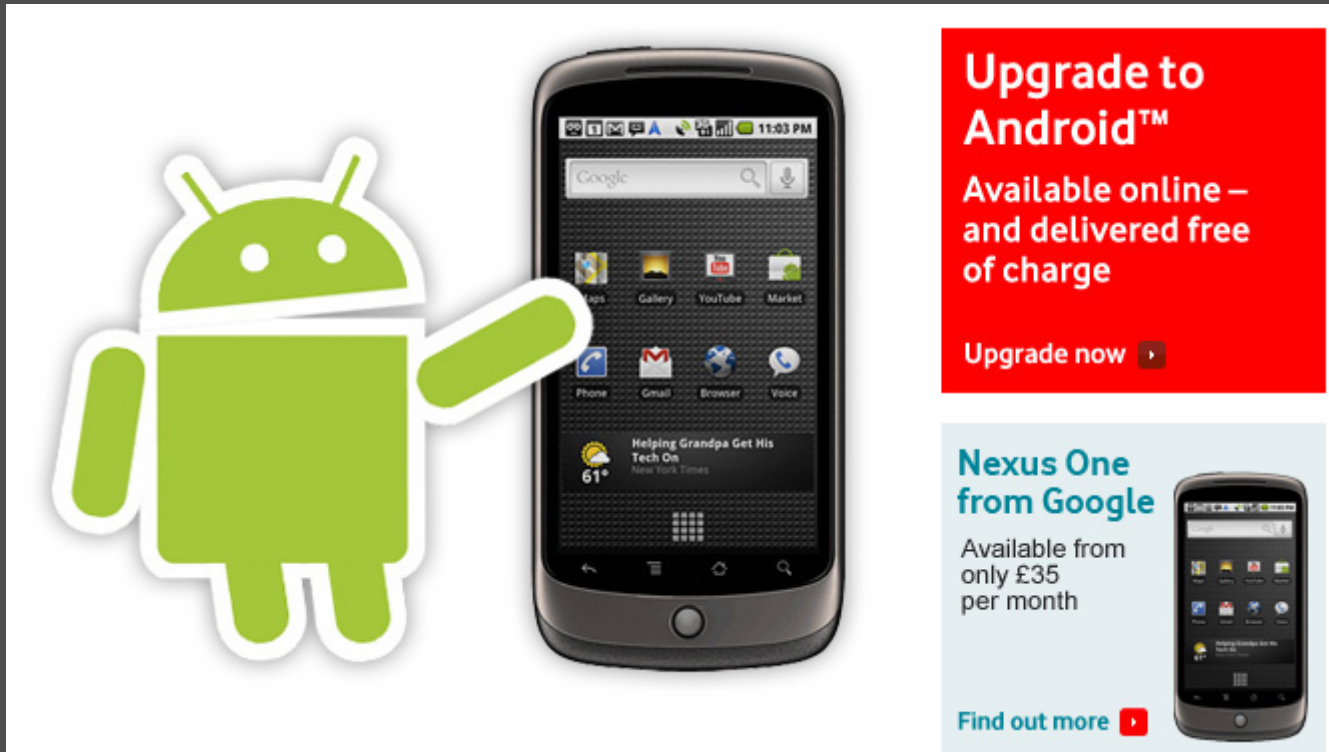
Apache web server

MySQL database

OpenOffice

Firefox browser

Wordpress –blog/website

maybe you have one of these......?

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android
open source project

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Welcome to Android http://source.android.com/

why did *you* select open source?

what were your motivations?
what benefits accrued?
what were the challenges?

I'll get on and talk about....

- what is open source

the free thing

- motivations

- benefits

- challenges

- Open source in the library domain

so… what *is* open source ?

characteristics of OSS

- peer-to-peer -- collaboration

- anyone can change the source

- modular, open standards

- typically some form of 'Maintenance Agency' to manage development & maintenance

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open source licensing

The fundamental purpose of open source licensing is to *deny* anybody the right to *exclusively* exploit a work

Taken from 'Understanding Open Source & Free Software Licensing'. By Andrew M St Laurent. O'Reilly. 2004

characteristics of OSS

'it ….depends upon copyright law just a Microsoft does'

for example by requiring (e.g. in the GPL) that the source code be made available by anyone who modifies and redistributes the software

Lawrence Lessig. 'Free Culture.' Penguin 2004

open source licensing stops this..

- I cannot copy the work (beyond single own use)

- I cannot make derivatives based on the work

- I cannot authorise anyone else to do either of the above two things

the elimination of the three main restrictions on most commercial 'shrinkwrap licensed' software is the foundation of open source licensing

what is it?

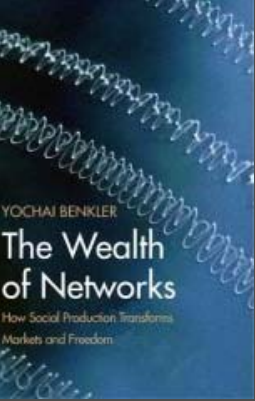'the process of systematically harnessing open development and decentralized peer review to lower costs and improve software quality'

The cathedral and the bazaar. Eric Raymond

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what is it?

'open source is about distributed innovation and will become the dominant way of producing software'

Library system vendor: JISC/SCONUL LMS study 2008

'[Open source] ...the quintessential instance of peer production'

an example of 'social production'

Before the cost of communication dropped precipitously, Benkler suggests that it was too expensive to have a decentralized social production exchange system.

Today however, citing open source projects such as SETI@home and Apache, he makes the claim that **social sharing and exchange is emerging as a significant and sustained factor of production.**

Social production as a new source of economic value creation
http://opensource.com/business/10/2/social-production-new-source-economic-value-creation#comments

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an example of 'social production'

Social production creates a new form of competition for firms who operate in the centralized market-based framework.
  * Peer-to-peer file sharing is competing with the recording industry
  * Free and open source software is competing with traditional IT companies
  * IP telephony is competing with traditional telecom industry

Benkler argues that social production is not a fad; it is a fact. While it does represent a new form of competition for incumbents, it also represents **a new source of opportunity for everyone**

Social production as a new source of economic value creation
http://opensource.com/business/10/2/social-production-new-source-economic-value-creation#comments

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an exemplar of 'positive deviance'

'Markets are superior to corporations in fuelling and funding innovation....But few communities and organizations operate like an open market. the PD approach attempts to **unfreeze the chronic impediments to change by engaging the community from the bottom up** and enabling members to vote in favor of the PD practices that make sense. Linux does the same thing in the virtual world '

The Power of Positive deviance. How unlikely innovators solve the world's toughest problems. By Richard Pascale. Jerry Sternin and Monique Sternin. Harvard Business books 2010

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part of a wider, 'open' thing...

..it appears that there is a mix of trends circling around **cloud computing, open source software, e-science, digital humanities, and open data** that all point to a shift in how libraries define and provide services. Although still in it's early stages, distributed computing models have already seen widespread adoption in libraries and are positioning our organizations to change how we approach service development and management, how we engage with our patrons, and how we allocate our resources. These trends are examples of the new types of services that libraries are being call on to support including collaboration, IT enhanced sharing and socialization, research and IT development.'

'Understanding the impact of open and distributed computing'. By Erik Mitchell .Blog 7 January 2011 . http://www.erikmitchell.info/2011/01/07/understanding-the-impact-of-open-and-distributed-computing/

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oh yes... let's deal with the thing about 'free'....

… 'free'

not all open source software is free and not all proprietary software is licensed for a fee.

freeware is free (gratis) software. The licensee can use it without paying a license fee

free software may be proprietary software --no source code provided (e.g. Adobe Acrobat) or open source software (e.g. Linux).

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...an aside on 'free(dom)'

'His [Stallman's] desire was to create "free" software, but the term **"free" should be equated with freedom**, and as such people who use "free" software should be:

1) free to run the software for any purpose

2) free to modify the software to suit their needs

3) free to redistribute of the software gratis or for a fee

4) free to distribute modified versions of the software.'

'Open Source software in Libraries.' By Eric Lease Morgan. Infomotions, Inc Blog. 2004 http://infomotions.com/musings/biblioacid/

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… 'free'

Open source illustrates the tension between 'free' as (just) another business model (see '*Free. The future of radical price*' by Chris Anderson) and 'freedom' (as promoted by Richard Stallman- 'think free speech, not free beer')

motivations

open source makes good business sense

open source business

'It's a very good business model for entering large, existing markets and taking significant share, and creating significant customer and investor value,' .....**If you're an incumbent competing with a new competitor that's an open source company, it's very difficult to adjust or change your business model to be competitive.** Usually by the time they end up adjusting, it's too late.'

Richard Gorman, a venture partner at Bay Partners. 2007

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it's mainstream, profitable big business

'Open source software provides one example where openness is creating significant value, a portion of which is captured by the firm, via a business model built around open source'.

'Open Business Models. How to thrive in the new innovation landscape' By Henry Chesbrough. Harvard Business School Press. 2006

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professional services/consulting and support remain the most lucrative business strategies for vendors

'Open source became big business in 2009' By Matt Asay. CNET News website. 26 December 26 2009.
http://news.cnet.co.m/8301-13505_3-10422013-16.html

the next opportunity in open source…

Typically, any disruption starts at the bottom of the stack and moves upwards. Open source is no exception: Adoption began at the operating system layer, moved to databases and application servers, and now we are seeing adoption in the application layer.

Survey respondents rated content management/social software the sector most susceptible to open source disruption over the next five years, along with databases and operating systems.

'The Future of Open Source - 2010' By Michael J. Skok, North Bridge Venture Partners
http://www.sandhill.com/opinion/editorial.php?id=306&page=2

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are we at one of those 'tipping points' ?

'2010 will be the year that the rest of the industry follows Google's lead and starts to use open source as a fundamental business strategy, and not simply a plaything to placate "the community."

'Open source became big business in 2009' By Matt Asay. CNET News website. 26 December 26 2009. http://news.cnet.co.m/8301-13505_3-10422013-16.html

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'I think the "tipping point" came when Whitehouse.gov went live on Acquia Drupal…… Because the White House chose an open source solution, many other federal agencies followed suit. It felt as though we'd cracked the public sector code ….. also giving tremendous credibility to open source in general within the public and private sectors around the world'

'The Future of Open Source - 2010' By Michael J. Skok, North Bridge Venture Partners
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an answer to 'market failure'?

is the market failing?

[The] study was launched to test the following propositions:

• There is a sizable community of users who are deeply dissatisfied with the cost and performance of currently available options, and this is a subject of concern at the leadership level of academic institutions.

• Open source software is a viable solution to this problem, and college and university leaders are receptive to it.

• There is significant demand for certain software products that is not being met, suggesting that there is a market failure and perhaps a need for some concerted action to address that failure.

'Software and Collaboration in Higher Education: A Study of Open Source Software.' By Paul N. Courant & Rebecca J. Griffiths. 26 July 2006

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is the market failing?

In conclusion, **we have found that there is good reason to believe that some market failure is taking place in the realm of administrative systems and that there is a real opportunity for the community to pursue a world with more effective and cost efficient solutions and a more robust marketplace**. We are convinced that collaborative efforts to build open source applications can produce software that better meets the needs of partner institutions and also has the potential to benefit the broader community, should these efforts attract an expansive base of contributors over time. This belief is largely founded on the hope of overcoming the historical disconnect between producers of software and HE users, who have complex, unique, and poorly understood needs. It is also based on the fact that HE has a fairly robust tradition of building its own software.

Software and Collaboration in Higher Education: A Study of Open Source Software.' By Paul N. Courant & Rebecca J. Griffiths. 26 July 2006

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is the market failing?

'We feel that software companies have not designed Integrated Library Systems that meet the needs of academic libraries, and **we don't think those companies are likely to meet libraries' needs in the future by making incremental changes to their products**. Consequently, academic libraries are devoting significant time and resources to try to overcome the inadequacies of the expensive ILS products they have purchased.'

Duke University Openlib project

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is the market failing?

'...we're seeing the seeds of a new revolution being sewn [sic]. As the goal of some companies becomes once more attuned to trimming costs... libraries and their users suffer. In some cases, cost savings are being generated for the company by consolidating products... When this happens, it is short-term profit that is the objective rather than serving the long-term mission of libraries. **These companies have become unresponsive to the collective goals of our profession** and, like so much of our society these days, are no longer focused on the "we" but the "me". It is a sad state of affairs and one that will not be tolerated'

'A symphony out of tune: when companies go deaf'. Carl Grant. Care Affiliates blog. 4 July 2007.
www.care-affiliates.com/thoughts/archives/6

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is the market failing?

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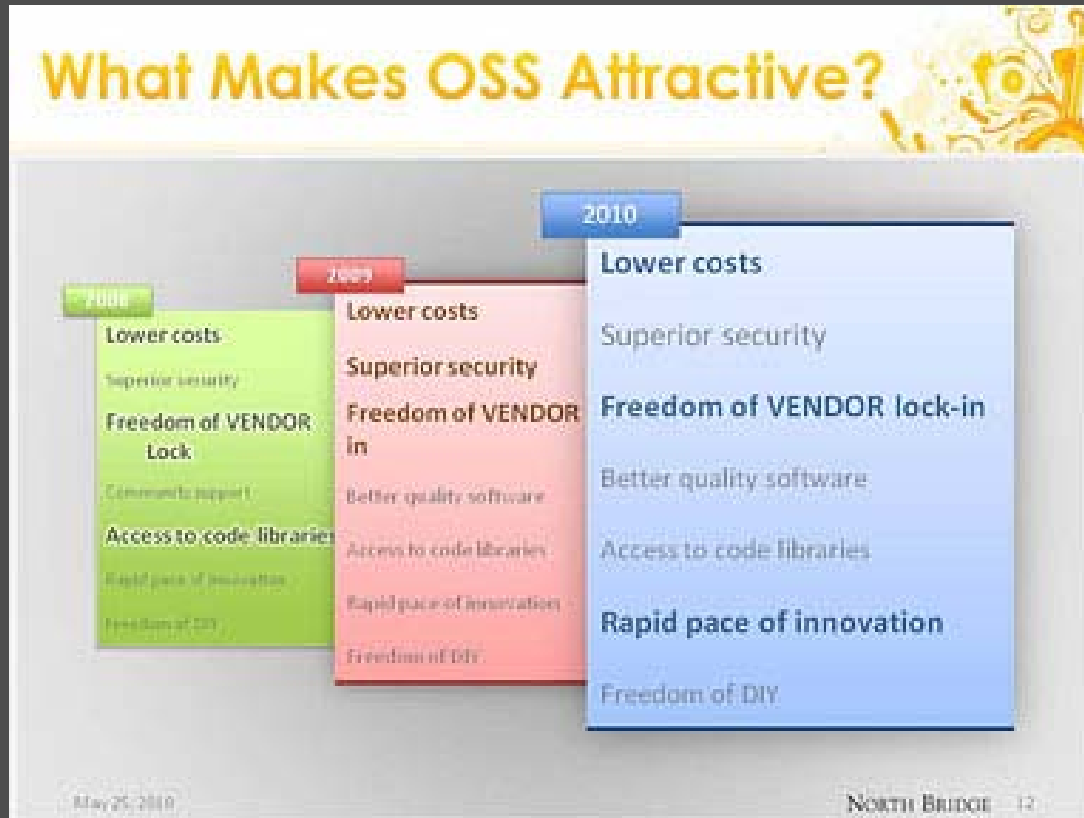
the 'consumer' benefits

benefits of Open Source (1)

- **bug fixing:** 'given enough eyeballs, all bugs are shallow' [Eric Raymond, *The Cathedral and the Bazaar*]

- **Security:** access to source code makes it easier to detect security flaws in software. In practice, the skills and time required to find security flaws, work out how they can be exploited, and then initiate an attack, are more specialized than the mundane debugging skills required to close them

- **customization:** open source software can be readily adapted to meet specific user needs. If you would like something added or customized urgently, you can generally pay an appropriately skilled software developer to do it

- **translation:** large closed source commercial software vendors are usually unwilling to translate their products into less widely spoken languages, as the market for them would be too small to guarantee a profit

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benefits of Open Source (2)

- **avoiding vendor lock-in**: as there is no incentive to use non-standard formats to inhibit compatibility, open source software tends to use open standard formats and there is little danger of being 'locked-in' by a vendor.

- **mitigation of vendor/product collapse**: the source code is not 'owned' in the same way that proprietary source code is, it may be picked up and developed by anyone with an interest in a product's survival.

- **being part of a community**: by adopting open source software you become part of a community of users and developers who have an interest in working together to support each other and improve the software

factors that make open source software attractive

North Bridge Venture Partners Future of Open Source survey 2010

factors that make open source software attractive

'low cost has helped open source endure the economic downturn and emerge even healthier. For the third year, survey respondents said that low costs are the most attractive aspect of open source technology'.

North Bridge Venture Partners Future of Open Source survey 2010

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open source in the library domain

'The survey found that open source ILSs were more cost-effective than proprietary ILSs. Libraries using open source ILSs chose them mainly for affordability, and they cost less than proprietary ILSs. Although users of open source ILSs experienced difficulties with installation and incomplete documentation, they were modestly more satisfied than users of proprietary ILSs.'

'Survey of Open Source integrated Library Systems'. A Thesis Presented to The Faculty of the School of Library and Information Science San José State University. By Linda M. Riewe. August 2008 http://users.sfo.com/~lmr/ils-survey/080831-paper-Riewe.pdf

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factors that make open source software attractive

"rapid innovation" is perhaps the most exciting new driver we identified. Buyers now specifically recognize that open source delivers innovation faster than proprietary software - a significant competitive advantage in a today's challenging business environment……. Without the burden of a long product development cycle, open source software can create and release new features immediately by the people and organizations that need them.

North Bridge Venture Partners Future of Open Source survey 2010

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beliefs about using open source

the turbulent economy was actually good for open source vendors (more than 95 percent of respondents)

open source software will make up greater than 25% of the software purchased in their organization. (Almost 80% of respondents)

North Bridge Venture Partners Future of Open Source survey 2010

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challenges

barriers for greater open source acceptance include…

- unfamiliarity with open source solutions
- lack of internal technical skills
- lack of formal commercial vendor support.

North Bridge Venture Partners Future of Open Source survey 2009 and 2010

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challenges…

Accenture ….found that **just 29 per cent of organisations are willing to share their own developments** with the rest of the community.

Despite the positive predictions…the survey found that **lack of senior management support** was the main reason for open source software being evaluated and then rejected.

Furthermore, 35 per cent of respondents said that the main challenge to its adoption was the **training developers require to use open source.**

Daugherty said: "As open source software is used in more critical business functions the next step will be for **organisations to decide whether to actively contribute back to the community."**

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challenge of social production

Benkler argues that social production is not a fad; it is a fact. While it does represent a new form of competition for incumbents, it also represents a new source of opportunity for everyone. The question he leaves us with, and the one that I believe opensource.com is meant to explore, is this:

How will this new model of social production develop alongside the traditional industrial information economy?

Social production as a new source of economic value creation
http://opensource.com/business/10/2/social-production-new-source-economic-value-creation#comments

open source in the library domain

open source in the library domain

'open source systems such as Koha and Evergreen have entered the marketplace as *routine* **options. '**

'Investing in The Future: Automation Marketplace 2009. By Marshall Breeding. Library Journal, 1st April 2009. http://www.libraryjournal.com/article/CA6645868.html

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open source in the library domain

A number of factors indicate that **open source library automation will be a growth sector for the industry,** although the adoption thus far has moved upward gradually, not climbed dramatically. ….. Generally, while open source library automation continues as a trend worth noting, **proprietary software currently dominates**.

'Automation Marketplace 2010: New Models, Core Systems Discovery interfaces add a new facet to the marketplace'. *By Marshall Breeding . Library Journal, 1st April 2010*

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open source in the library domain

Mitchell noted that open-source ILSs were interesting, but didn't feel that ILS development was progressing at a fast pace. "I think there's not an economic or service model that's motivating us now to do something significantly different…. I don't think the ILS is going to be the key differentiator for libraries in the future."

ALA Midwinter 2011: Top Tech Trends Focus on Econtent, the Device Divide, and New IT Needs. By David Rapp. Library Journal. 13 January 2011

http://www.libraryjournal.com/lj/home/888803-264/ala_midwinter_2011_top_tech.html.csp

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some views of library system vendors

- 'we only use OSS as *components'* (to reduce costs)
- 'OSS is not competitive for a complete LMS'

Or.....(remember this one?)

- **'Open Source** is about distributed innovation and **will become** the **dominant** way of producing software'

open source in the library domain

- *Library Management Systems (LMS, ILS)*
  - Koha
  - Evergreen
  - OPALS
  - NewGenLib

  - Kuali OLE on its way…..

open source in the library domain

- *other library and library related systems*
  - Electronic Resource Management –ERM (CUFTS ERM/TrueSerials, CORAL, ERMES, Ematrix)
  - Discovery/Search (VuFind, Blacklight, Summa, SOPAC)

  - Repositories (Eprints, Dspace)
  - Archives (ICA AtoM)
  - Learning systems (Moodle)
  - Management information (BIRT)

open source in the library domain

- *components*
  - Lucene (in Primo, Encore)
  - Drupal (in Chamo)
  - MySQL (in Talis Decisions)
  - JANGLE.org (interoperability API)
  - Pazpar2 (metasearching middleware in OCLC WorldCat local)

open source in the library domain

- *support and development companies*
  - Index data
  - Equinox
  - PTFS
  - Turo Technology

some libraries in the UK that have chosen an open source LMS

University of Staffordshire

Booz & Company (Management Consultants)

CAMLIS (Health Library)

Dame Alice Owen's School (School Library)

UN Food & Agricultural Organisation (Special Library)

King's Fund (Special/Health Library)

Kettering NHS Trust (Health Library)

National Botanic Garden of Wales (Special Library)

World Maritime University (Academic Library)

Higher Education Library Technology (HELibTech) www.helibtech.com

more information…

'**Open Source' article on..**

http://helibtech.com/

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the open source landscape

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