Open Source Culture

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Think of an organization. The main mission of this organization is freely distributing information to its members. The organization's core values underlie a commitment to freedom of speech, freedom from excessive restrictions imposed by copyright and open access to information. Think of the members, mostly highly educated individuals who are committed to the idea that information wants to be free.

For the traditional librarian the preceding scenario may sound very familiar. What I am describing is not only the culture of a library however, but open source culture. Open source culture is the culture of hacking and hackers, cyberpunks and cypherpunks, geeks and slashdotters[1] that make up this virtual world. They are eclectic, mostly self taught and very determined that there is a better way to do things than through strictly proprietary means. They are also one of the great hopes for libraries in a digital age.

This paper hopes to describe Open Source Culture as it relates to library culture. To begin at the beginning of library culture is nearly impossible. Open source culture on the other hand is easy to date. It begins with the Free Software Foundation and one Richard Stallman.[2]

Stallman was and is a revolutionary thinker who does not like the way copyright and particularly nondisclosure agreements are enforced in relation to software. Those among you who do systems work may agree with his assessment of proprietary software vendors. Here he is referring to the early days of computing:

> The modern computers of the era, such as the VAX or the 68020, had their own operating systems, but none of them were free software: you had to sign a nondisclosure agreement even to get an executable copy.
>
> This meant that the first step in using a computer was to promise not to help your neighbor. A cooperating community was forbidden. The rule made by the owners of proprietary software was, "If you share with your neighbor, you are a pirate. If you want any changes, beg us to make them." [3]

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This situation continues to the present day and has only become much worse. Before the modern era of nondisclosure statements computing was much more congenial with universities and government writing most of the software and making it available for free. The problem arose when vendors discovered software was profitable and the way to make profit was to charge for sales of individual copies or licenses. In addition this software was closed or proprietary. This means that if an end user wants to make changes, such as writing a driver to get an unsupported printer to work, it is now very difficult and possibly illegal. The next time you buy a peripheral, lets say a digital camera, you can be pretty sure it will work with the latest version of Microsoft Windows. But what if you have an older machine that doesn't run XP? Lets say a library still running Windows 95. Worse, lets say you own a Mac or run a Linux box. Because of proprietary licenses you can't just write a driver for Windows that will be included in the next distribution. It must be certified by Microsoft[4]. If you want to make sure your digital images show up on your Mac there has to be an Apple approved driver[5]. But what about Linux? To answer that we must look at what Open Source Software is.

Shortly after not being able to write a driver for a printer Richard Stallman came up with the idea of writing free software. To avoid confusion here is Stallman's definition, which, as he puts it,

> ". . .has nothing to do with price… a program is free software, for you, a particular user, if:
> • you have the freedom to run the program, for any purpose;
> • you have the freedom to modify the program to suit your needs. (To make this freedom effective in practice, you must have access to the source code, since making changes in a program without having the source code is exceedingly difficult.);
> • you have the freedom to redistribute copies, either gratis or for a fee; and
> • you have the freedom to distribute modified versions of the program, so that the community can benefit from your improvements.[6]

This may all sound like noble, if somewhat Pollyannaish, drivel except for the fact that he did it.

Stallman created a new operating system based on UNIX called GNU. He also created the venerable UNIX editor EMACS which is found in just about any distribution of a UNIX like system you care to name. Still, there had to be a legal component or it would not work. Stallman's greatest creation may well be the concept of copyleft and the GNU public license.

Copyleft is the idea that you can use copyright law to guarantee access to a created work.

> The central idea of copyleft is that we give everyone permission to run the program, copy the program, modify the program, and distribute modified versions—but not permission to add restrictions of their own. Thus, the crucial freedoms that define "free software" are guaranteed to everyone who has a copy; they become inalienable rights.[7]

The legal instrument to effect these ideas into law is the GPL or General Public License[8]. GPL is not the only license that allows users the freedoms mentioned above. There are many versions of this license some granting greater freedoms and some more proprietary.[9] Now this is all well and good but it is not Open Source. For all of its merits the Free Software community was mostly academic, fought constantly, and had little interest in the business world. Open Source is the GPL with a business plan.

According to the Open Source Initiative website[10] the term open source goes back to a meeting in February of 1998. At the time Netscape had just announced that it was planning on giving away the source code for its browser.

> We realized it was time to dump the confrontational attitude that has been associated with "free software" in the past and sell the idea strictly on the same pragmatic, business-case grounds that motivated Netscape. We brainstormed about tactics and a new label. "Open source," contributed by Chris Peterson, was the best thing we came up with.[11]

By August of that same year Forbes was interviewing Linus Trovadis for a major article on his open source operating system Linux. This brings us to the

present state of Open Source. Still to understand the Open Source model you need to look at how the work gets done. The great text for understanding this is Eric Raymond's *The Cathedral and the Bazaar*.[12] Raymond makes extensive use of analogy for describing the way software is constructed:

> I had been preaching the Unix gospel of small tools, rapid prototyping and evolutionary programming for years. But I also believed there was a certain critical complexity above which a more centralized, a priori approach was required. I believed that the most important software (operating systems and really large tools like the Emacs programming editor) needed to be built like cathedrals, carefully crafted by individual wizards or small bands of mages working in splendid isolation, with no beta to be released before its time.
>
> Linus Torvalds's style of development—release early and often, delegate everything you can, be open to the point of promiscuity—came as a surprise. No quiet, reverent cathedral-building here—rather, the Linux community seemed to resemble a great babbling bazaar of differing agendas and approaches (aptly symbolized by the Linux archive sites, who'd take submissions from *anyone*) out of which a coherent and stable system could seemingly emerge only by a succession of miracles.[13]

In the past libraries behaved like cathedrals. We were large buildings to which supplicants came to find revealed truth. If libraries are to survive we must leave the comfort of the cathedral for the raucousness of the bazaar. Prohibitive contracts with publishers are driving our costs so high as to put us out of business. At the same time the average user does not understand that everything is not on the internet and so we must compete with seemingly free products online. We know that these products must be evaluated carefully but how. There is not enough time or staff to catalog the internet there is no consortia large enough to make certain products affordable. Libraries must do something radically different to change their modus operandi. We must embrace the bazaar.

By embracing the bazaar I mean we must do things differently all the while looking to our own history and ethical values for direction. Open source values are library values. We see them in our mission statements which call for open access to our resources. We see these values put into use every time we use interlibrary loan to allow a user to have access to an information resource that he or she does not have to purchase. We teach these values in information literacy when we stress students analytically differentiate the authorial value of sources that are many times influenced more by marketing than facts. We practice these values every time we form consortia and tackle projects communally with the knowledge that a greater understanding comes with "many eyeballs" on the problem. The culture of libraries is a culture of academics who reach out and do things communally. Open source culture is not a culture we must adopt, but a culture we must recognize within ourselves. Ultimately there must be practical ways to implement this culture as a way to make our libraries more profitable, to give us leverage with publishers and to promote ourselves to users.

Profitability

Anyone who has had to buy licenses from Microsoft understands the basic syllogism of:

> All of our hardware runs on Windows.
> Microsoft is the only vendor of Windows.
> Therefore, we need Microsoft.

Neal Stephenson in his seminal essay "In the Beginning was the Command Line"[14] compares operating systems to cars and Microsoft Windows to station wagons. His main point is that users have been using these cut rate products for years and have come to expect mediocre performance and greedy, unresponsive vendors.[15] Now comes the hard part. As libraries we have been chugging along on Microsoft's vehicles for years. Additionally, every year brings more features which we must pay for whether we want them or not. The only way to get control of the costs of software and technology long term in libraries is to own the system. The means to do this are provided by the open source model. The library community could, for example, come out with its own distribution of Linux especially geared towards libraries.[16] It would be open source so there would be little or no licensing costs. It would be written by librarians for librarians

so we would have none of the problems that come from trying to kludge together a solution developed for another purpose. Support could be provided by the issuing agency which would train in house specialists. Since it would be UNIX based any skills gained in administration of existing UNIX systems would be easily transferable. If a library needed special features they could either handle it in house or hire any of a multitude of UNIX and open source programmers to recompile the source code and tweak it just for their library. At the same time major revisions would have to adhere to open, non proprietary guidelines to insure that everyone could communicate. If we can do z39.50, this would be child's play.

Even if none of this were to happen there is nothing to keep libraries from using existing, standards compliant distributions as the basis for servers and workstations. At the server level open source software is unmatched in terms of ROI and dependability.[17] In addition there have been many articles recently about the applicability of open source software to libraries.[18] The facts are that we could be running our libraries with open source operating systems and applications at a fraction of current costs.

Publishers

It is not news to anyone that subscription costs to journals have skyrocketed. This is largely due to the fact that journals are starting to market their products like the computer industry does licenses. In this way publishers control not only content, but, what may be done with that content once the user has it. This is an inevitable trend in the same way that the RIAA now makes their products unusable in any form except the one they dictate. Librarians and faculty have already started reacting to this hostile trend that threatens the very content we depend on to survive. New initiatives such as SPARC[19] are forging alternatives to current journals with their exorbitant prices. Already places like Los Almos National Laboratories[20] publish their field's findings first and foremost in electronic form. Ever since 1990 when the Journal of Postmodern Culture became the first scholarly journal to be available in only electronic form[21] the changes have been coming.

Promotion

Everyone in the field of library science seems to have a prediction about the viability of libraries in the future. Doomsayers have been around for years telling any who would listen how the book was obsolete, the internet was going to put us out of business and how we could not exist in a post-literate world. Hogwash! Libraries are now and will continue to be an absolute necessity in our society. One of the reasons for this is open source culture. By having a culture that values freedom of speech, that seeks to allow access to all information, that seeks to empower all users we are the greatest asset of the average citizen. We not only play a part in making sure that access remains to resources, we shape generations by imparting critical values that are pivotal if we are to remain a free nation. By promoting our culture of openness and accessibility, by reaching out to our users and empowering them with ever greater access to information we stand to gain a whole generation of users who are politically apathetic and literarily blasé. We can be a doorway for users not only to some idea of an information highway but to a culture of openness, fairness and understanding. As such we will not only survive in the new millennium, we will shape it.

Notes

1. Slashdotters are those that read and post to Slashdot (http://slashdot.org).

2. For information on Stallman and GNU see http://www.gnu.org/gnu/thegnuproject.html.

3. See http://www.gnu.org/gnu/thegnuproject.html.

4. See http://www.microsoft.com/hwdev/resources/default.asp.

5. See http://developer.apple.com/macosx/pdf/macos_x_intro_english.pdf

6. Ibid.

7. Ibid.

8. For a text version of the GPL, go to http://www.gnu.org/licenses/gpl.txt.

9. For a list of current GPL-like licenses, go to http://www.gnu.org/licenses/license-list.html

10. See http://www.opensource.org/docs/history.php.

11. Ibid.

12. See http://www.tuxedo.org/~esr/writings/cathedral-bazaar/.

13. See http://www.tuxedo.org/~esr/writings/cathedral-bazaar/cathedral-bazaar/index.html#catbmain.

14.   See http://www.spack.org/words/commandline.html also at http://project.cyberpunk.ru/lib/in_the_beginning_was_the_command_line/.

15.   Ibid.

16.   This may sound far fetched, but specialized distributions already exist and are not overly difficult to create.

17.   For a brief overview of advantages of Open Source products see http://www.linuxtek.com/whylinux/.

18.   Eric Lease Morgan has written more about this subject than anyone. I highly recommend "Possibilities for Open Source Software in Libraries," *Information Technology and Libraries*, March 2002, 12.

19.   See http://www.ala.org/acrl/sparcacrl.html.

20.   See http://lib-www.lanl.gov/.

21.   See http://www.iath.virginia.edu/pmc/contents.

Works Cited

Johnson, Rick. <http://www.ala.org/acrl/sparcacrl.html>. (17 Oct. 2002).

"LANL Research Library." < http://lib-www.lanl.gov/>. (17 Oct. 2002).

Malda, Rob. "Slashdot: news for nerds, stuff that matters." <http://slashdot.org> (20 Dec. 2002).

"Mac OS X: An Overview for Developers." <http://developer.apple.com/macosx/pdf/macos_x_intro_english.pdf>. (10 Nov. 2002).

"Microsoft Windows Platform Development." <http://www.microsoft.com/hwdev/resources/default.asp> (10 Nov. 2002).

"Open Source Initiative." <http://www.opensource.org/docs/history.php>. (9 Nov. 2002).

"Postmodern Culture." <http://www.iath.virginia.edu/pmc/contents.all.html>. (17 Oct. 2002).

Raymond, Eric S. "The Cathedral and the Bazaar." <http://www.tuxedo.org/~esr/writings/cathedral-bazaar/>. (15 Oct. 2002).

Stallman, Richard. "GNU General Public License." <http://www.gnu.org/licenses/gpl.txt>. (3 Oct. 2002).

———. "The GNU Project-Free Software Foundation." <http://www.gnu.org/gnu/thegnuproject.html> (3 Oct. 2002).

Stephenson, Neal. "In the Beginning was the Command Line." <http://www.tuxedo.org/~esr/writings/cathedral-bazaar/>. (14 Oct. 2002).

"Why Linux." < http://www.linuxtek.com/whylinux/>. (17 Oct. 2002).