

Edits & Columns

LOOK AT IT

Open Source goes beyond software

Free digital archives being extended from health to all biological sciences

S Sadagopan

What began as the ‘free software’ movement, thanks to Richard Stallman, has matured over the years. It is not just a posturing alternative to the commercial ‘closed’ software. Software and services are a dominant sector of economic activity. Major industry segments — automobiles, banking & finance, healthcare, oil & gas, retail and transportation — depend heavily on software. And so, interest in the open source movement has heightened. The combination of the Linux operating system (widely used at the server level and with increasing adoption at the desktop), Apache (powering half the world’s web servers), MySQL (the database that has come of age) and Perl (the widely used scripting language) — together generally referred to as Lamp — has an eco-system of pundits, developers, evangelists and adopters that cut across geographies, industries, languages and cultures. Somewhere, it has struck an interesting chord in the minds of millions of people.

What is interesting is that the open source philosophy has deeply influenced many other segments of human endeavour. I will touch upon scientific publishing as one such segment in this column. For long, scientific publishing was controlled by the scientific societies. With technology starting to dominate industry and ‘licensing’ contributing a significant part of the revenue of technology companies, scientific publishing went into the hands of commercial companies. Authors had to ‘pay’ a fee to get their papers published; the journals’ subscription rates started rocketing.

The nexus between libraries and publishing houses could partly alleviate the problem; individuals were given ‘subsidised’ subscription. There are some bright spots. Societies such as IEEE in the US and IEE in Britain do have clout: they are still in the hands of professionals. But such success is not widely prevalent. Responding to this, an Open Source publishing movement started some time ago. In the early Internet days, there was even talk of ‘self publishing,’ where you create a website and keep all the written stuff, for access to any intended reader. With the growth of ‘web spiders’ and search engines, such as Google, there was even a feeling that publishers would be “driven away.” Luckily, no such thing happened.

One clear example of an alternative to ‘commercial publishing’ is the PubMed Central (<http://www.pubmedcentral.gov/index.html>) project of the US National Institute of Health (NIH). It is a free digital archive of citations and scholarly journals. It is not a replacement for publishing, but provides an alternative

open and free resource for all humanity. The same group also provided GenBank, the highly successful genetic data sequence repository, that allowed researchers anywhere in the world to tap into the huge database of human genomic sequences. Even more interesting is the arrival of the blog (internet weblog), that is permitting thousands of individuals to ‘self-publish.’ Blog became the most used word in the year 2004, as per Webster’s online dictionary (see my FE column of Feb 4).

- **After free digital archives have come individual internet weblogs**
- **The Open Source philosophy is invading one territory after another**

Google, MSN, Sify and Rediff provide space and tools for bloggers today. But what really excites me is the Cambia (Italian word for change) Project, that is building an alternative, BIOS (Biological Innovation for Open Society). Bios is extending the Open Source software movement to biological sciences (including agriculture and pharmaceuticals). Their Bio-forge (www.bioforge.net), on the lines of the highly successful repository, Source-forge (<http://sourceforge.net/>), of Open Source projects (code, code samples, white papers, FAQ, tutorials and guides, with 99,483 live projects and 1,062,251 registered users as on April 28) is another idea whose time has come. Bio-forge also has an excellent free, full-text access to some key parts of patents' information. I find them to be the best among all online patent tutorials, database, white papers, etc). It will be interesting to watch this Open Source movement over the next decade, as it invades many other territories of human endeavor.

The writer is director, IIT, Bangalore. These are his personal views

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