The social implications of free software

In the not-so-affluent world in particular, proprietary software deserves to be skipped

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If you're new to it, free software appears to be tough to shift to. It also tends to be supported by a smaller pool of techies, and has something of a steep initial learning-curve. So why shift at all? In any case, you can easily make do with illegally-copied proprietary software… right?

Wrong! That's a lazy way of looking at things. It's also an outdated approach, which goes back just three decades or so, when proprietary- you can't copy it, you can't share it - software became the norm.

Today, free software offers so many different alternatives, that it'd be criminal to avoid giving it more attention.

> Proprietary software isn't going to give up without a fight. Their last strategy is to confuse issues. Free software isn't really "free". Why call it free when it isn't always zero-cost? There are a whole lot of similar arguments, which are proliferating in this bitter battle for the hearts and minds of computer users.

In a report on free/libre and open source software's impact on the developing world, Finland-based researcher Niranjan Rajani cites a number of reasons why free software makes even more sense to the poorer and resource-hungry countries of the planet. This report, "Free as in Education" Significance of the Free/Libre and Open Source Software for Developing Countries, version 1.0, dated May 2003, is available online on the FLOSS for Development site (http://www.maailma.kaapeli.fi/FLOSS_for_dev.html). The reasons Rajani cites include: lower cost; using free software as a means of coping with the 'anti-piracy' campaign; and deploying it on grounds of security and technological independence.

Tere Vaden, a professor at the University of Tampere's Hypermedialab, argues that the "background motivations" for creating and using free software range from the pure technical (i.e. speed of development, security and privacy, technological independence, ease of use) to the deeply economic, social, political and philosophical (i.e. price, co-operation, equality, commitment to the right to know).

Free software works out reasonably priced both in the short and long term. Free software creates local jobs and multiplies local skills. Free software is transparent enough for you to 1) learn it, if you have the technical background 2) make custom changes in the manner you wish to, or you can pay others to do this for you and 3) enable both you and your staff to learn at a much deeper level.

Real-life examples from South Asia

Looking at the real world easily helps us to understand why free software makes a big difference to its users. Many of the examples below are from the South Asia region. This is due partly to the fact I am based there. Significantly too, the South Asia region is an under-studied re-

Fig. 1: Asia looks at Linux... file photo of an earlier AOSS meeting. Photo by Frederick Noronha

gion in the free software world, and a lot of initiatives from South Asia are simply waiting too long to be studied. An example is Project Ganeshas (http://www.ganeshas-project.org/), named after the elephant-headed Hindu god, realises the potency of GNU/Linux in schools in Nepal and has been working on this front in recent years.

Free software is also helping young South Asians to work collaboratively across continents, forge software and bring out the best in each other. Take a look at an Indian version of Sourceforge (http://sarovar.org/). Likewise, the Project Resource Centre (PRC) on the sarai.net server is working to enhance the skills of local techies.

For a general overview of free software in this region, check out the Free Software Foundation of India (http://fsf.org.in) or Linux India (http://www.linux-india.org). However, more often, the real story lies in the easy-to-miss details.

Using barefoot entrepreneurial skills, college students and other young people are selling copies of free software CDs, at a very low cost - the equivalent of a dollar each and less. In this way, they're earning some money for themselves and doing a favour by spreading the use of free software.

In South India, linuxense.com is a "GNU/Linux-based Enterprise providing software solutions of exceptional quality using cutting-edge technologies; creating a GNU/Linux ambience for our distinguished clients in their demanding work environments."

Free software - sometimes called "open source" by those preferring a more corporate-friendly name - is also contributing to education. "Freed" is a content management system and free education website (http://free-ed.org:12080/Freed/). Educationists are encouraged to create an account for themselves and upload, browse, comment on or rate content available on this site. The objective of this site is to enable everyone to help others and themselves learn.

There are many other ways in which free software enables and empowers. GLUGs (GNU/Linux user groups) build skills among hundreds of young people. One listing in India's "Linux For You" magazine shows that there are around 80 GLUGs scattered across India alone, some more active than others. You can also see a listing of local GLUGs, LUGs, Free Software User Groups and the like at LINK||http://wikiwikiweb.de/LugsList

Free software is offering other solutions too.

Today, almost all software, operating systems and websites in much of the less-affluent world are in the English and other non-Indian language. In a country like India, since English is a language spoken by less than 10 percent of the population - and is generally considered to be the language of the affluent - language is a significant barrier. This situation is creating a new class of people; those who live in "information poverty" even as technology becomes cheaper and cheaper. To destroy this barrier, techies from the free software camp have been stressing the need to create a national-level, collaborative effort to localise GNU/Linux to Indian languages.

Localisation is taking computing to languages - even small ones - which nobody every dreamt would get access to the power of IT. Networks such as IndicComputing on Sourceforge.net are doing a great job finding local solutions to local requirements, and all without much in the way of financial resources.

So, why is [GNU]Linux in the search for local-language solutions? Simply because its openess scores over the centrally-controlled approached. This allows local linguistic groups to customise user interfaces in ways that are far more culturally sensitive than any centrally-controlled approach. Small linguistic groups, considered too tiny to form a viable market for any vendor, can now also work to tailor

Textbox 1: Why do people develop, code and program free software?

It appears almost unbelievably contrarian and unusual. Who creates free software, and who shares it? Why would anyone create it without the thought of making their million?

Rajani's report says software developers, coders and programmers undertake this task for a range of motives. This includes altruism and a sense of sharing knowledge, taking on a challenging task, doing it just for fun, undertaking the task as something needed to be done for one's own work, for developing new skills, or even in expectation of an indirect reward such as improving job opportunities.

the free software interface to their own needs. The IndicComputing network has argued "We therefore believe that GNU/Linux is a very attractive long-term solution to India's computing needs".

Their logic is self-explanatory. Information technology in India has been confined to the three percent of the Indian population who feel comfortable reading, speaking and writing English. IndicComputing has argued "Given that there are one billion Indian citizens, this is a scandal. [GNU]Linux and its ecology encompass almost all areas of computing today from small embedded devices and clusters with thousands of nodes. We believe that [GNU]Linux technology should be accessible to all Indians, regardless of linguistic background,".

Free software comes with its "four freedoms". This, itself, offers the possibility of unlimited sharing of knowledge. In India, a CD called "Linux In A Teaspoon" - it deals with the entire OS, not just the kernel, though - contains over 40 full-length text books and over 200 "how to" documents covering every aspect of the GNU/Linux in, what its authors call, "a profound but readable style". It also includes over 120 mini- "how tos" and *tons* of tutorial material, plus numerous links and pointers to more resources on the world wide web. As if this were not enough, the CDROM also includes 70 issues of the online *Linux Gazette*.

To put this together, the "Linux In A Teaspoon" team had to compile over 17,000 files in over 3,000 directories. They merged this all in a single, easy-to-use top-level navigational index. Its price - at just INR500 in India (around US$11) - is a modest enough price to basically - say the authors - meet copying, media costs, delivery and direct overheads only. Can you think of any other system of knowledge-building and sharing that would allow for such potent possibilties?

Models for creating, sharing knowledge and solutions

Talent-rich but resource-strapped enterprises, schools and even SMEs (Small and Medium Enterprises) in the less-affluent parts of the globe are finding different models for creating and utilising the potential of computer software.

India is considered to be a superpower-in-the-making in the computer software field. Yet, the high costs of software means that most users in this country simply can't afford or don't use legal products. That's where free software comes in. It's finding a role in powering software development. It can help boost e-commerce, and suddenly make it all the more easy for non-techies to update and maintain their website.

Best of all: this promise comes at a price anyone can afford. Free software doesn't refer to "free beer" - but "free speech". Yet, because it doesn't use the "you can't copy software" paradigm of proprietary software, its price tends to be far more reasonable. Most of the time, it's just a download away from the internet.

However, many who are opting for it, are choosing it not because of its low (or, almost no) costs. GNU/Linux is a very high-quality product, it gives you the chance to get into its innards and work on it. Thus, for many, it is the basic tenets of free software, that make it so attractive. Including the freedom to study, freedom to change, freedom to share or distribute, the right to sell free software, and the principle that the software 'source' has always to accompany binaries.

There are other benefits too.

Dr V. Vinay, of the Bangalore-based Indian Institute of Science, said in an interview some time back, "Children like to play with things, tear them apart and - if we are lucky - put them back together. Free software encourages such exploration, allows interaction with other 'children', and helps them to understand large complex programs. It does this without inducing any guilt of being a 'pirate'! Dexterity in

Fig. 2: Techies throng to GNU/Linux fairs in Bangalore. Photo by Frederick Noronha

creation and not in usage is crucial if a developing country like India has to create its own niche. Or else, we will merely be followers." The other major impact of free software, which Dr Vinay sees, is on the security of the country. "Free software is software that can be trusted as we have the source code," he explains.

GNU/Linux is not important only from the cost point of view. It is powerful and robust. It is also flexible and gives you the power to modify. In addition, Free Software has a very low cost of ownership, contrary to the propaganda and claims put out by the world of proprietary software. You don't pay per client licence, you don't pay for every upgrade, add-on or feature. Once you set it up, it requires very little maintenance. Even if you need to pay someone to customise the software to your needs, the gratification is that this money goes to local talent, not some rich corporation that needs to get richer.

In a region where technology skills are plentiful, but resources are scarce, this makes even more sense.

So far, computers in India have been widening the gap between the haves and the have nots, says Sudhakar "Thaths" Chandrashekharan, an Indian earlier based in Silicon Valley. "Thaths" earlier worked for Netscape. He has been strongly promoting GNU/Linux in India, and is one of the founders of the Linux-India.org network in India. Technologies like these could change things, because it can breathe new life into old hardware and help bridge the gap, he argues.

In the non-profit world

In the world of volunteering, or among NGOs (Non-Governmental Organisations, as they're called in some parts of the globe), free software has a special role to play.

Free software goes well with the NGO-oriented principles of sharing freely, re-use and waste minimisation. So, is there any reason for NGOs to take the side of a global monopoly? Taking this cue, an international camp for NGOs (http://www.tacticaltech.org/asiasource) interested in free software was held in end-January 2005 in Bangalore, South India.

"Freedom" is something NGOs always talk about, in whatever form. But in the software world, this is already a reality. The possibility exists: are we ready to take a little extra trouble (the initial learning curve) in opting for it? Like its other users, NGOs also get the promise of quality, stable software from the free software world. NGOs too tend to be rich on talent, and limited on (financial) resources. So it makes sense for them to give free software a serious look.

Importantly, free software also empowers computer users and encourages them to cooperate, as Richard M Stallman points out.

Above all, Free Software is an ethical choice - not one of convenience. NGOs also tend to receive, store and disseminate huge amounts of information. It helps to be able to access info (in digital format) without having to 1) break the law, and 2) spend money to purchase applications to "read" the information. Using free software enables that, as South India-based lawyer Mahesh Pai points out.

Groups like Oneworld.net, a coalition of developmental organisations with a regional headquarters in New Delhi, are open to convincing about the need to spread the ideas of free software among NGOs in India (personal email, January 2003).

In December 2002, Steven Sy wrote (in personal email) about Greenpeace-Asia's shift over to free software. Greenpeace Southeast Asia - GPSEA, was formally established on March 1, 2000 and has offices in Bangkok, Thailand (head office) and in Manila, Philippines. It currently has 18 staff in Bangkok and eight in Manila. Globally, Greenpeace runs "ninety percent plus" of their servers on GNU/Linux. But, Manila became the first Greenpeace office to fully deploy GNU/Linux as the majority desktop "The office has been planning to move to free software since early 2002. We

made a conscious choice between migrating to free software or spending funds on expensive software licenses. We also did not want to get into legal troubles if ever the BSA (Business Software Alliance, the proprietary software arm that fights illegal copying of software, which it terms 'piracy') came our way," explains Sy (27). Free software was used for word processing, e-mail, web browsing, spreadsheets and presentations.

The advantages are obvious: "It's free (both as in 'beer' and as in 'speech') and secure (less or no virus infections since migrating)." The motives for shifting over: "It's a mix of both (technical and philosophical). Free software is a technically superior and morally correct technology," says Sy. All of the regular staff now use free software in their daily work.

"Since we downloaded the software off the internet, just the costs of blank CDs that's less than US$1. For the users, just time and patience in learning the new system," says he. "Free software saved the office a lot of money, money that was better spent on winning campaigns (for the environment) than paying for very expensive licenses." Problems have been limited to "some minor bugs in the software and steep learning curve for administering (for a beginner)."

Conclusion: Opening the doors

Prakash Advani, a long-term supporter of Free/Libre and Open Source Software, and earlier head of the Freeos.com network, has argued that GNU/Linux is being increasingly accepted by the corporate world, both as a tool to save money and offer cutting-edge technologies. Advani said that with 50 users, any firm could save considerable sums by using a Linux print-and-file server, as an internet and e-mail server, and also for networking. "It can also be used for web-servers, proxy-servers, internet servers, firewalls, routers, application servers, database servers or fax gateways," he has said.

Syed Khader, who has worked with IBM-Bangalore, tells how GNU/Linux had been put on a wrist-watch at the IBM's Bangalore research centre. In past exhibitions, he has demonstrated super-computing with GNU/Linux. Khader showed how computers could be linked in clusters. Such tools have immense applications in fields like weather forecasting, unearthing the genome code, or coping with powerful web-servers, he notes. GNU/Linux could thus be used to support web-server processors that could take upto one million hits per second.

"[GNU]Linux reduces hardware costs, and requires less maintenance. It involves no cost for upgrades. There are also savings on add-ons like anti-virii programmes," says FreeOS.com CEO Prakash Advani. As more of the planet wake up to its potential, there's a growing realisation, that in a world dominated by Windows, that GNU/Linux is indeed opening many doors.

Can we dream of a time where most of the software used by the average user is free?

Fight as the proprietary lobby might - using all kinds of tools, from software patents, to "trusted computing" - such a scenario is not wholly unlikely or impractical. As computing stretches to make its impact felt on the lives of a wider section of the planet, there's little choice but to give free software a good, hard look.

Some could see free software as an affordable solution, with no restrictive licensing barriers. Others will look to it for the promise of stability and technological efficiency. Techies will, no doubt, continue to see it as a fun way of learning, sharing knowledge, and contributing their skills to those who need it most.

Put together, what could this mean? Less of a "digital divide". Fewer computers consigned to mountains of e-wastes, just because the planned obsolescence needs of proprietary software makes them useless long before their time. Easier access to youngsters to learn the innards of computing, not just some superficialities. Smaller languages of the planet suddenly finding computing relevant to them... and more.

What would life be without its dreams and hopes?

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