

Free market, unfree technology and common people

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ABSTRACT

This paper looks at technology as a means to equity, examines its current efficacy, identifies bottlenecks in current legislation and license regime. Finally I identify the free-software license and movement as a possible way forward.

Keywords

Technology, freedom, legislation, license, general public license

EQUITY VIA TECHNOLOGY?

"The process of communication or software production left to the free-play of market forces does not act as a countervailing mechanism against the natural working of an unequal society. It reinforces the unequal society rather than correcting it" Working Group on Software for Doordarshan. Chair: P. C. Joshi. Date: 1982

Can technology be used to build a more equitable world? There are 180 odd information and communication technology projects across India including MAHITI.ORG. Even globally, many believe - technology will set humanity free. There is some truth in that, but if the last 40 years are any indication things are only getting worse. Existing class, caste, religious, ethnic, gender divides have been joined by a new entrant - the digital divide. Some even say that technology has been counterproductive in the battle against poverty. This is because technologies are chained down by legislation and licenses. As a result common men and women don't usually produce, own or control these technologies. It remains the exclusive privilege of the rich and powerful who use it to perpetuate rather than overcome inequity. This is rather strange. Especially when most technologies that are invented inherently promote equality and promise emancipation. How does this happen?

WHY DO TECHNOLOGIES LOSE THEIR FREEDOM?

Politicians would have us believe that liberating technologies will lead to their misuse by criminal and extremist forces and consequently result in law and order problems. Businessmen believe that restrictive licenses create the monopoly environment that is required to make their business commercially interesting. Technologists believe that liberating technology will lower the barrier for competitors and muddy the markets. These powerful lobbies ensure that technology remains out of the reach of

common people. Let us now understand their modus operandi.

TECHNOLOGY IN CHAINS!

Politicians use legislation and nepotism to enslave technology. Whenever liberating technology is discovered, it is quickly followed by legislation and monitoring agencies filled with party or family members. Note this trend from the Telegraph Act (1895) that prevented ownership of wireless transmission devices. Right down to the Information Technology Act 2001 which lays similar restrictions on being a Internet Service Provider. From legislation is born licenses.

License agreements between inventor and the entrepreneur, between the government and the citizen, between the producer and the consumer. For example, a license to run a radio station and a license to buy newsprint. Most license regimes revoke all ownership and reproduction rights by default and then grant rights to a select elite minority. Corporations benefit the most from monopoly inducing legislation and are therefore lobby for greater protection of intellectual property. Calculate the cost of licenses for the defacto Operating System and Office Suite across one million [some say two] computers in India at \$15 billion. Remember under subscription model this is an annual cost. Add to that the cost of graphics, publishing, web authoring, 3 D modelling, database, multimedia animation and server software tools installed on most office and home computers. If India went completely legit, more dollar would leave India in license fees than than arrive due to software exports. In spite of this both governments and corporations within Indian and abroad lobby for more patents, extended protection periods and merciless crackdowns on so-called pirates.

When Timothy Berners-Lee conceptualized the browser he conceived a web authoring cum viewing tool. Radio was invented as both a transmitter and receiver of sound. Technocrats have stunted these technologies to prevent common people from producing using them in production mode. technologies. However tools of consumption have become cheaper in the case of radio and free in terms of web browsers. Even though, computers were always used to duplicate and share files amongst friends and colleagues, a consortia of record companies, movie moguls, software giants and hardware vendors are working overnight to build computers that will not have these basic capabilities. Strangely this project is called Trusted Computing.

Consequently, common people, have been unable to use powerful technologies to leap frog across the digital divide.

HOW DOES THIS AFFECT ME AS A TECHNOLOGIST?

I am a programmer. But I had \$1000 to execute an information and communication technology outreach project in Bangalore. I would select FM Radio from the existing arsenal of technologies. For a \$1000 dollars I could reach 100 people using computers however I can reach over [population of Bangalore] using FM radio. Radio has several advantages over computers. Auditory consumption and vocal production ensures that both neo-literates and illiterates are able to use the media effectively. As a multimedia device it is much more cost effective than cinema or computers. For example it is easy to simulate a train on audio tape while compared to video production or animation. The current network of private and public phones can be used as an effective feedback mechanism. The consumption device is mobile, can be used in individual or collective mode. Consumption devices are available at \$ 2. Technically it is downright intuitive to use both the production and consumption devices. And given some training anyone can build and repair both devices at home using standard parts. The devices are not power hungry and can withstand a wide range of temperatures. There are examples on running these devices on bicycle or wind-up energy. In spite of its tremendous advantages over computers, many believe that computers are the ultimate digital divide fix it. Unfortunately the wonderful potential of radio has been chained by by unimaginative license regime. We have __ radio channels in Bangalore today. Mostly filled with political, commercial or entertainment based programming. No radio stations are owned by common people. Consequently very little air time is used for the common man or woman.

Not to say that computers are completely irrelevant. Computers adds value to any technology intervention. Digital signal manipulation on computers can professionalize radio production. With the advent of mp3 encoding, a 25 cent CDROM can hold 600 minutes of high quality sound thus improving archival and transport possibilities. Internet connectivity brings the global audience and its feedback directly to the artists. Computers can also leverage on radio using demand based data broadcast. And since FM Radio has great geographic reach this can be used to wire great nationwide networks.

However with radio in chains, common people continue to use inappropriate tools like computers to overcome the digital divide.

WHAT HAS CHANGED?

1. Internet: The Internet has proved that technologies can be liberated without subverting governance or commerce. The Internet is controlled, owned and governed in a collective manner. Production on the Internet is not a licensed affair, however all the manic multi casting has not created civil unrest in any country. It has blurred the boundaries of media - net radio, web v, net to mobile device and digital newspapers. In addition it levels the playing field producers and consumers of information.

And finally it has provided a global platform and community for common people.

2. GPL and Linux: Richard Stallman's articulation of the free technology license [General Public License - GPL that is used for free, libre open source software] and success of the GNU/Linux project. This has provided us with an alternative theoretical framework and a real world example for business and logistics. The GPL grants four freedoms on the technology being transferred. Freedom of purpose, freedom to study, freedom to modify and the freedom to distribute modifications. The only condition that the GPL makes is on disclosure of source code.

PRIMARY ARGUMENT FOR FREE TECHNOLOGIES

New knowledge has always built on old knowledge. As individuals we find this useful, however collectivity this had often had a huge multiplier effect. A copyleft license provides access to the knowledge of older generations and that of peers. However a copyright license prevents this, resulting in the wheel being re-invented ad nauseum.

Let me illustrate with an example. The World Bank according to its mission statement is engaged in battle against poverty. It raises trust funds from developed countries. These funds are used to build capacities and to transfer technologies to developing countries. A good amount of the funds are used to hire consultants or knowledge workers from the developed world. Unfortunately the contract between the recipient country and consultant contains an exclusive license statement. This prevents general public and other countries from accessing the report and other documents produced by the consultant. In effect, the 'wheel is being reinvented in each and every country'. This is a flagrant waste of development funds especially when the war against poverty is not really working. If all these contracts were GPL compliant, the knowledge produced by the consultants would be shared across people, projects and nations. It would be whetted, localized and enriched by several experiences across the globe. Overall the consumers of knowledge would have tremendous value for money from the consultants. The consultants would profit by being pressured into excellence by demanding and knowledgeable clients. Notice how a change in the license dramatically improves the World Bank's chances in the battle against poverty. Copylefting, unites seekers of knowledge, by allowing them to stand on each others shoulder in order to further their own horizons.

Copyrighting on the other hand might benefit the inventor and the business man but it divides the community of knowledge seekers. And therefore thwarts progress. Copyleft licensing can be used for many things other than software. Software here, can be understood in its broadest sense - any good or service that does not diminish when it is consumed.

However, I do not believe in extremes. The world has enough space for both liberative and restrictive licenses. However just as the private sector must protect its interests, so must common men and women protect the publics. And just as musicians and artist must make money

from their software. The development sector must be able to build seed banks and use generic HIV/AIDS medicines.