

Public Software for Public Institutions

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Digital society

Evolution of society

Agriculture society → Industrial society → Information society

Emerging Information / Knowledge society essentially a digital society

Information/Knowledge creation, sharing and storing increasingly digital, dramatically reducing costs of information and communication

Three infrastructural components – content, connectivity and code

Promise of a egalitarian society

Knowledge resources are '**non-rivalrous**' hence easy to create and protect as 'Knowledge commons' (Bernard Shaw – apples and ideas)
Software/digital resources are even easier to share – to restrict sharing is very difficult (legal/technical methods to create scarcity) – hence technically easy to create digital knowledge commons

Public digital methods such as http, tcp-ip, html and public funding have allowed for development of the Internet

Promise of knowledge for all

Access by all, co-creation by all in decentralized models

Google search, Wikipedia

Special promise for marginalized groups, developing countries of leap-frogging the divide by freely sharing knowledge and cultural resources

Digital society

The promise of an egalitarian digital society looks unlikely to be realised
Internet is moving rapidly from a large shared and open socio-cultural
space to controlled private spaces

Overlap, arrangements between content and connectivity providers

No “net neutrality” on mobile Internet - Google Verizon agreement

http://www.itforchange.net/EPW_Internet_mall

Docomo offering Facebook free

Information gatekeeping by private provider

Good Google Bad Google

<http://www.thehindu.com/opinion/op-ed/article2476822.ece>

Increasing barriers to access and sharing

Facebook as the typical monopolistic service offered on proprietary/
closed standards

Proprietary file formats

Closed standards essential to monopoly creation

Cloud computing – moving computing resources to centralised models

Device barriers - Apple

IP on content, DRM

Proprietary software creating an eco-system of artificial scarcity of
software resources, criminalising sharing. Mysore raids on SMEs

Digital society

Digital society a socio-political concern, not a technology issue

Digital resources, their design, production and appropriation a social concern

Need for us to seriously look at the information society being built

Moving rapidly away from possibilities of an open and public Internet where information fulfilling public interest needs is created in decentralized models for all

to a oligarchic Internet where the nature and flow of information is determined by few entities based on their commercial interests

Where the eco-system of digital resource production and distribution is based on artificial scarcity creation

The Internet is open and potentially limitless. Electromagnetic spectrum remains extensive and largely un-utilized. The Internet represent the potential for vast public wealth – but cannot be translated into private riches (profit) precisely because of its’ abundance.

Businesses need to create scarcity to create an ‘exchange value’ on products and services that before only had massive and popular ‘use value’. The Internet had to be commodified to enable its’ profitability.

Mark Weinberg, AIDC

Public Institutions – Purpose and principles

Work for 'public good' goals, - equity, social justice, democracy, development

Requires philosophy to share knowledge and other resources (protecting and promoting the **commons**)

Case of community water source (pond) v/s bottled water

Public ownership, universal access, participation by all in creation and maintenance for a community pond, not in bottled water

Similarly public school system, public transport – common creation and access to critical resources

Knowledge commons with the Digital Public

Similarly (most) knowledge important resource for public good goals, hence public ownership over knowledge resources critical for:

Free (without barriers) sharing of knowledge

Continuous building of knowledge through collaboration

The Internet was created through public funding and grew through public protocols and resources

Knowledge non-rivalrous and is not required to be treated as property

Nature of software ownership

Proprietary software prohibits free sharing and participation in its creation/use

Requires royalty payments per user, harms equity and universal access

Use of proprietary software inconsistent with principles of public institutions

We need to move from being mere consumers of proprietary software to citizens who own/adopt/adapt/share public software

Public ownership of software necessary and possible

Free Software Movement and FOSS

Free Software movement - started in 1983 by Dr Richard Stallman
now a world wide movement

FOSS stands for *Free and Open Source software*

Source (Code) – the actual series of instructions written by the software programmer

Open Source – where the source code written by the programmer is in the public domain - it can be 'seen' by any person

Free software – permits four **free**doms – use, study, modify, distribute

Millions of software community members collaborate to develop software that is freely shareable and customisable by all

Software, as a form of digital knowledge should be as much as possible free to be shared, collaboratively created, modified for the benefit of society

Hence digital freedom is an important freedom and as society becomes more and more dependent on digital resources, software freedom will be critical

For public institutions, we could call FOSS as Public Software

Public software is software created for the public good which is publicly owned – permitting free sharing and local customisation required by all to participate in the digital society being built

What is Public Software? See www.Public-Software.in

Similar movements for 'Open Access' and 'Network equality'

Benefits of Public Software

Moving from 'minimalist proprietary' environment to a 'maximalist public' one

easy to install and use

single installation for hundreds of tools (rich environment)

secure/safe environment (*virus resistant*)

free to share, free to modify/enhance and share back

Avoid software piracy (illegal)

Application areas (illustrative)

Operating system (Microsoft Windows) - Ubuntu GNU-Linux

Office Applications (Microsoft Office) - Open Office

Email client (Microsoft Outlook) - Mozilla Thunderbird

Internet Browser (Internet Explorer) - Mozilla Firefox

Publishing (Page Maker, Corel Draw) - GIMP, Inkscape, Scribus

Website design (Sharepoint) - Drupal

These applications are used by **millions** of people across the world

Socio-cultural aspects of Public Software

Public Software represents collaborative production of resources for common use and benefit

This new model of communitarian production now being adopted in other arenas – drug research (malaria) in India

Can be adopted in all areas of knowledge production to support collaborative / co-construction, thus an important method for curricular resource design and development in education

Supports public institutions goals of public good/welfare
Supports process of collaboration to build, reform, rejuvenate the 'public'

Adopting Public Software

Large scale adoption in many countries – Europe, South America.

Kerala, Tamil Nadu, Gujarat, Orissa and Assam in India

Govt of India policy on [open standards](#)

CDAC, NIC, NRC-FOSS Public Software agencies support adoption

Many institutions already working to promote public software all over India

But pressures from proprietary software vendors, with huge marketing budgets and unethical business practices a big obstacle to growth of public software in society

Indian education system under pressure from vendors, to dump resources on schools at huge costs and hook teachers and students to proprietary software

What can we do?



All public institutions and those working in them need to adopt and promote public software

Larger societal role to promote the 'digital public'

Governments need to fund development of public software, just as they fund public education or public health and make available public software resources for society

Academic institutions to promote teaching and research on public software

NGOs to adopt and promote public software for universal access and sharing of knowledge as well as participatory co-creation

Some beliefs / myths

Software is a technology issue, why should we bother?

Software is the essential for accessing and participating in digital society and hence its nature (public vs private) is an important issue, that concerns all

Public software is not user friendly or of poor quality

Ease of use is a matter of actual use/habit. Software becomes better when used

Is Public software compatible with commonly used proprietary software

Yes the public software alternatives are SUPERSETs, and hence its users can easily work with those who have either public or proprietary software.

There is no support available for public software

Not true. Though public institutions and governments need to play their role in building / strengthening the 'public software' ecosystem