



Public Software for Public Educational Institutions

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www.ITforChange.net

www.Public-Software.in

Public Educational Institutions – Purpose and core principles



- Public Educational Institutions (PEI) seek to work for equity and social justice/development
 - through universal access to education of an equitable quality
- PEI philosophy is to expand / spread knowledge in society
- Collaborative / co-construction of knowledge
 - Free sharing of knowledge
 - Open to continuous refinement/change

Changing forms of knowledge



- Oral traditions
- Written
- Print
- Digital
- Each innovation has led to far greater spread / democratisation of knowledge
- Dramatic knowledge expansion over last few decades, largely due to digital revolution
 - (Kindle e-reader), Wikipedia, websites, Web 2.0 – participatory knowledge creation
- Creation of digital/information/knowledge society
- Knowledge / social networks

Changing nature and role of knowledge



- Move towards a knowledge society
 - Agricultural/feudal era – Labor resource owned by landlord
 - Capital society/industrial era – capital resource owned by capitalist
 - Knowledge or information society – knowledge resources
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- Increasing part of GDP is knowledge based (services economy), role of agriculture and industry (manufacturing) far reduced
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- 2007 US GDP - Agricultural = 1.2% Industry= 19.8%. Services = 79%
 - India 17.5%, 20% and 62.6% respectively.

Knowledge a non-rivalrous resource



- Bernard Shaw – Apples and Ideas
- Ideas exchanged results in enrichment for all, unlike finite physical resources
- Knowledge resource holds promise for equity
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- Hence need to ensure knowledge remains freely shareable and modifiable by all
- Artificial mechanisms required to prevent knowledge from being freely shared
- Pressures on free and open knowledge paradigms
- TRIPS / Agriculture / IPR
- [http://en.wikipedia.org/wiki/Rivalry_\(economics\)](http://en.wikipedia.org/wiki/Rivalry_(economics))

Software – key construct of digital society



- Software - critical infrastructure (key) to access and participate in the new digital world / information society
 - Software itself needs to conform to the principles of being free and open
 - Public ownership
 - Proprietary software prohibits free sharing and participation in its creation/use
 - Requires royalty payments per user/use inimical to equity and universal access
- Hence use of proprietary software inimical to the principles of public academic institutions
 - Private ownership over key – loss of access / costly / failures

Free Software Movement



- Started in 1983 by Dr Richard Stallman
- Now a world wide movement
- Millions of software community members work in collaborative manner to develop software that is freely shareable and allows participation in its creation/use/design by all
 - Free and Open Source Software (FOSS)
 - Open document formats
- In the context of public sector institutions (including public academic institutions), we could term FOSS as Public Software
- Public software is software created for the public good which is publicly owned
- http://en.wikipedia.org/wiki/Free_software

Public Software



- Many options available
 - easy to install and use
 - single installation for hundreds of tools (rich environment)
 - secure/safe environment
 - free to share
 - free to modify/enhance and share back

Application areas

- 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
- Database (Access or Oracle) → MySQL
- Publishing (Page Maker, Corel Draw) → GIMP, Scribus, BlenderD

• <http://www.public-software.in/>

Adoption



- Plan of action in adopting public software
 - Practical benefits
 - Economic
 - (IIM A study 20,000 crores savings annually)
 - Small scale FOSS enterprises vs large multinational monopolies
 - Socio-cultural
 - Strengthen processes of collaboration (public systems)
 - Political
 - Protection of sovereign interests
 - Pedagogical
 - Enables constructivist approaches
 - Importance of philosophy
 - Large scale adoption in many societies – Europe, Latin America.
Kerala, Tamil Nadu and Assam in India
 - CDAC, NIC, NRC-FOSS Public Software agencies

Some beliefs / FAQs



- Software is a technology issue, why should we bother?
 - Software is the key to accessing and participating in the digital society and its nature influences this access and participation
- Does proprietary software have no role in society?
 - Public Sector should use public software in keeping with its principles/ethos. Private (for profit) sector may find proprietary applications useful for competitive advantage etc
- Public software is not user friendly or of poor quality
 - Ease of use is a matter of actual use/habit. Software quality depends on several factors
- There is no support available for public software
 - Not true. Though public institutions and governments need to play their role in building the 'public software' ecosystem



- What role can we play
 - Public institutions have a crucial role – as users, participating in application design, testing, advocating adoption.
 - Governments need to fund development of public software, just as they fund public education or public health
 - Need to ensure public software repositories are created for easy access and sharing
 - Move out of 'software as a black box' thinking.

“War is too important to be left to the Generals”