Annex I

Definitions

Free and Open Source Software (FOSS): Software whose source code is published and made available to the public, enabling anyone to copy, modify and redistribute the source code without paying royalties or fees. Open source code evolves through community cooperation. These communities are composed of individual programmers and users as well as very large companies. Some examples of open source initiatives are GNU/Linux, Eclipse, Apache, Mozilla, and various projects hosted on SourceForge[1] and Savannah[2] Web sites.

Proprietary software -- Software that is distributed under commercial licence agreements, usually for a fee. The main difference between the proprietary software licence and the open source licence is that the recipient does not normally receive the right to copy, modify, redistribute the software without fees or royalty obligations. Something proprietary is something exclusively owned by someone, often with connotations that it is exclusive and cannot be used by other parties without negotiations. It may specifically mean that the item is covered by one or more patents, as in *proprietary technology*. Proprietary software means that some individual or company holds the exclusive copyrights on a piece of software, at the same time denying others access to the software's source code and the right to copy, modify and study the software.

Open standards -- Software interfaces, protocols, or electronic formats that are openly documented and have been accepted in the industry through either formal or *de facto* processes, which are freely available for adoption by the industry. The open source community has been a leader in promoting and adopting open standards. Some of the success of open source software is due to the availability of worldwide standards for exchanging information, standards that have been implemented in browsers, email systems, file sharing applications and many other tools. Without open standards, it would be impossible to interact and exchange information on the Internet.

Proprietary standards -- Describes software interfaces, protocols and electronic formats that are developed by and controlled by a given company and have not been made freely available for adoption by the industry. Some proprietary software uses proprietary standards, i.e. non-public interfaces or electronic formats. When an interface, a protocol or an electronic format is non-public, the owner of the proprietary interface controls it, including when and how the interface changes, who can adopt it, and how it is to be adopted (resulting in user lock-in).

"**Lock-in**" **--** In economics, vendor lock-in, also known as proprietary lock-in, or more simply, lock-in, is a situation in which a customer is dependent on a vendor for products and services and cannot move to another vendor without substantial costs, real and/or perceived. By the transfer of these costs to the customer, lock-in favours the company (vendor) at the expense of the consumer. Lock-in costs create a barrier to entry in a market that if great enough to result in an effective monopoly, may result in antitrust actions from the relevant authorities. It is often used in the computer industry to describe the effects of a lack of compatibility between different systems and the costs associated with training when moving from one vendor software application to another.

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[1] http://sourceforge.net/

[2] http://savannah.gnu.org/

Annex II

Some common proprietary software programs and their free and open source alternatives

Versions of these programmes can run on Microsoft Windows or Apple Macintosh as well as on Linux.

Purpose	**Proprietary Software**	**Open Source Software**
Operating system	Microsoft Windows	GNU/Linux
Web browser	Internet Explorer	Mozilla Firefox
Office suite	Microsoft Office	OpenOffice.org
Image editor	Adobe Photoshop	GIMP
Web server	Microsoft IIS	Apache

Annex III

Free and Open Source Software: Pros & Cons

FOSS Proponents	FOSS Opponents
Total cost of ownership ◊ Open source has a much lower price (true) ◊ **The total cost of open source is lower (maybe)**	Total cost of ownership ◊ Some proprietary software are not compatible with open source (true)
Features & Quality ◊ Open source is more reliable (maybe) ◊ Open source is more secure (maybe) ◊ Open source is more powerful (maybe) ◊ Open source is more network friendly (true) ◊ **Open source can be more customized** ◊ **Open formats and standards are better (true)** ◊ Open source supports better curricula in technology (maybe)	Features & Quality ◊ Proprietary software has more features (true) ◊ Proprietary software is more user friendly (maybe) ◊ Open source is not mature enough for schools (false) ◊ **There are no open source solutions for some school needs (true)** ◊ **Some curriculum software is incompatible with open source (true)**
Deployment & Maintenance ◊ With open source you only pay for what you need (true) ◊ **Open source makes license management easier (true)** ◊ **Open source means greater independence from companies (true)** ◊ Open source lets teachers & students take software home (true)	Deployment & Maintenance ◊ Open source is harder to deploy (maybe) ◊ Proprietary software offers better service & support (maybe)
Users & Migration ◊ Some open source software are just as easy to learn and to use	Users & Migration ◊ Migration to FOSS is too expensive (maybe) ◊ Users are more familiar & comfortable with proprietary software (true) ◊ It's difficult to integrate open source & proprietary solutions (maybe)
Free Markets & Choice ◊ Software should be a commodity (maybe) ◊ Proprietary formats and standards lead to vendor lock in (true) ◊ Proprietary software leads to monopolies (maybe)	Free Markets & Choice ◊ Proprietary software may be needed to use some third-party programs (maybe)
Principles & Rights ◊ The debate is really about philosophy, not money (maybe) ◊ Software is better when it's transparent (true) ◊ Open source is more empowering (true) Open source is community-driven & community serving (true) Proprietary software threatens civil rights (maybe) ◊ Open source will protect civil rights (false) ◊ Open source software will mean computers for everyone (false)	Principles & Rights ◊ Users don't have the luxury of experimenting (maybe) ◊ Proprietary companies are already making their software transparent (false) ◊ The best courseware will be more compatible with proprietary software (maybe) ◊ Open source threatens intellectual property rights (false) ◊ Open source is anti-business, anti-democracy, anti-liberal, etc (false)

Annex IV

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Annex V

Brief Summary of UNESCO's activities in FOSS for Education

1. UNESCO promotes international cooperation and dissemination of knowledge in the field of education, sciences, culture and communication. Therefore the organization recognizes that community approaches to software development in general, and FOSS in particular, have a very significant role to play. There are a number of activities undertaken by UNESCO in support to FOSS.

2. Free & Open Source Software Portal[3] - The UNESCO Free and Open Source Software Portal[4] was developed and published in November 2001. It is maintained by the Information Society Division and provides a one-stop access point to reference documents on the FOSS movements, as well as to websites hosting the most popular and useful FOSS packages in UNESCO's fields of competence. The portal also mirrors the Free Software Directory[5], a joint project of UNESCO and FSF that catalogues useful free software that runs under free operating systems — particularly the GNU operating system and its GNU/Linux variants. The Web pages of the FOSS portal are amongst the most visited and the "Courseware Tools" category is the most popular.

3. The Greenstone Digital Library (GSDL)[6] - **U**NESCO has produced with the New Zealand Digital Library Project (NZDL) of the University of Waikato (New Zealand) and the Human Info NGO (Antwerp) a multi-lingual version of the Free and Open Source Greenstone Digital Library software suite. It is expected that the Greenstone software package will enable educational, scientific and cultural institutions worldwide to build and share compatible digital libraries of open access and public domain information. UNESCO makes available free of charge CD-ROMs containing Greenstone 2.70, documentation available in four "core" languages (English, French, Spanish, Russian) and documented examples of digital libraries and associated software. A feasibility study conducted by UNESCO suggested that the open source GSDL, associated with appropriate training and documentation, could constitute a unique resource in the implementation of digital libraries for Africa.

4. UNESCO assisted in the deployment an open-source Learning Management System (LMS) at the Arab Open University in Bahrain, which was further replicated in Jordan and Saudi Arabia.

5. Together with UNDP, UNESCO also organized a consultative meeting of specialists to assess the needs of developing countries in terms of FOSS and on modalities to pursue an FOSS initiative for developing countries with special focus for Africa.

6. UNESCO has partnerships with FSF, the Free and Open Source Software Foundation for Africa (FOSSFA) and various FOSS-active non-governmental organisations (NGOs) and is participating to the Latin American and Caribbean Conference on Free Software Development and Use (LACFREE). In addition UNESCO is informally collaborating with FAO, UNEP, UNDP and UNCTAD in promoting FOSS.

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3 ***Free & Open Source Software Portal An gateway to resources related to Free Software and Open Source Technology movement***

4 http://www.unesco.org/webworld/portal_freesoft

5 http://fsd.unesco.org/directory/

6 http://www.greenstone.org

7. Other activities undertaken by UNESCO in support of FOSS are: development, distribution and translation of UNESCO FOSS software (CDS/ISIS – database software[7], IDAMS – statistical software[8]).

8. Two discussion forums organized by UNESCO IIEP have focused on the related issues of Free and Open Source Software (FOSS) for e-learning (June 2004) and Open Educational Resources (OER): open content for higher education (October/November 2005). The FOSS and OER groups have continued to interact on a more informal basis as international Communities of Interest.

9. The Discussion forum on Free and Open Source Software (FOSS) for Open Educational Resources organized by **IIEP/UNESCO** took place f**rom 11 September to 6 October 2006.** The main outcomes were the elaboration of a list of FOSS tools for OER development, management and dissemination[9], and the creation of a wiki collaboration space dedicated to the UNESCO IIEP Community of Interest on Open Educational Resources.

10. An Internet discussion forum aimed at discussing the OECD study on Open Educational Resources (OER) was held from **13 November to 1 December 2006.**

11. UNDP-APDIP Documentary on "Software for development: Documentary and Case Studies"[10] - UNESCO contributed financially to this activity implemented by the UNDP Asia-Pacific Development Information Programme's (UNDP-APDIP) International Open Source Network IOSN) initiative, which aims to promote the choice of FOSS as affordable (yet effective) solutions for developing countries in the Asia-Pacific region.

7 **CDS/ISIS database software**

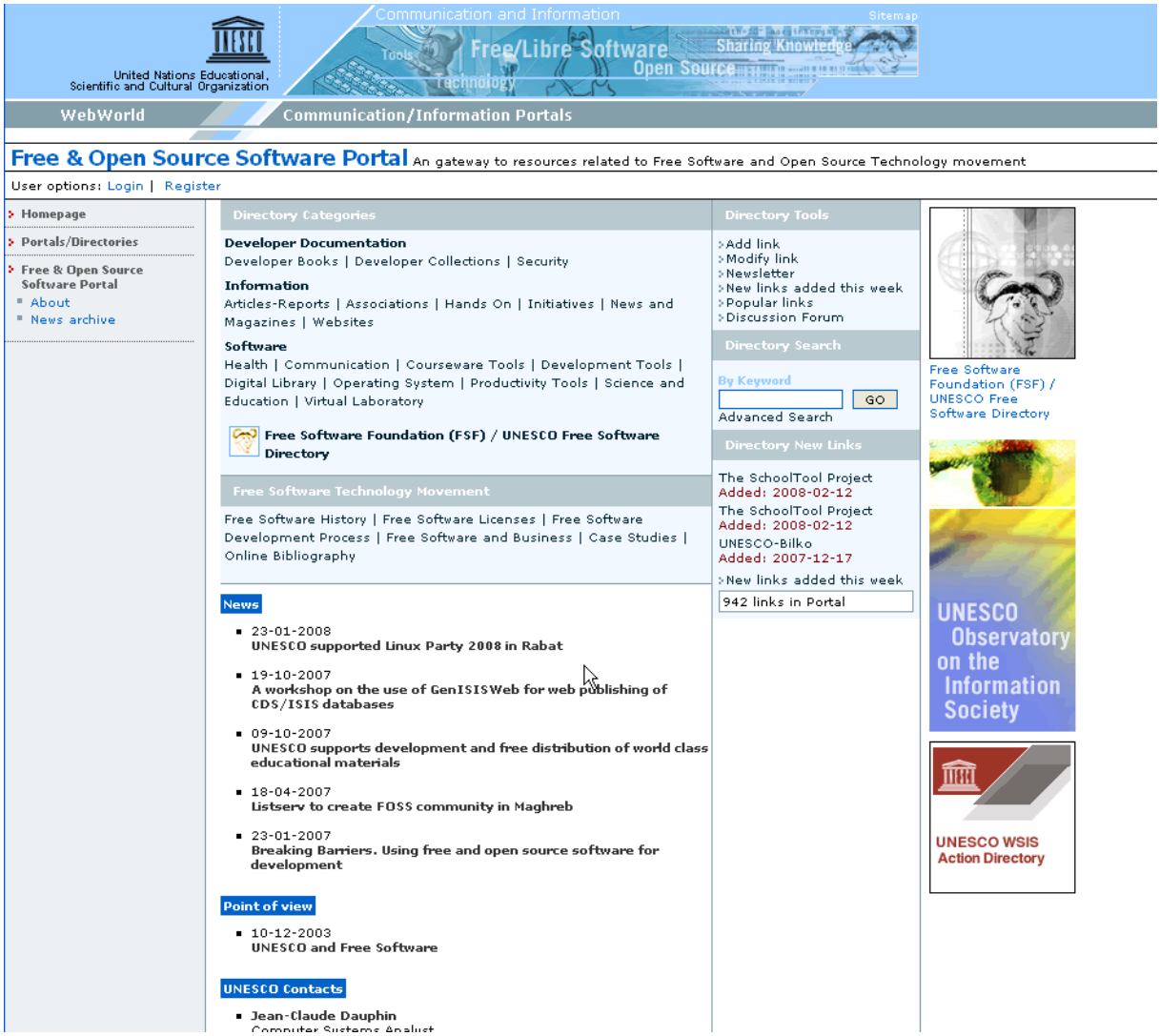
8 **IDAMS Statistical Software**

9 **FOSS tools to implement Learning Technology Standards in OER**

10 ***Breaking Barriers. Using free and open source software for development***

Annex VI

UNESCO' Free and Open Source Software



Annex VII

The World Summit on the Information Society and the software debate

The World Summit on the Information Society (WSIS) (Geneva, 2003 and Tunis 2005) has recognized the importance of the issue of the use of software, mostly in relation to the crucial role that software plays in access to information and knowledge. The WSIS adopted the following positions on the issue, focusing on the need to ensure diversity of choice, as follows:

a) The Declaration of Principles adopted in Geneva, in 2003, stresses the possibilities offered by different software models, including proprietary, open-source and free software, in order to increase competition, access by users, diversity of choice, and to enable all users to develop solutions which best meet their requirements .[11]

b) The Plan of Action, also adopted in Geneva, in 2003, calls for action to ensure an optimal choice of appropriate software that will best contribute to achieving development goals. [12]

c) The Tunis Commitment adopted in Tunis, in 2005, recommends the development of applications based on open and interoperable standards, and the utilization of technologies developed under open-source and free modalities. The Tunis Commitment also encourages and fosters collaborative development, interoperative platforms and free and open-source software. [13]

d) The Tunis Agenda for the Information Society also adopted in Tunis, in 2005, reiterates the support to the "development of software that renders itself easily to localization, and enables users to choose appropriate solutions from different software models including open-source, free and proprietary software."[14]

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[11] "Access to information and knowledge can be promoted by increasing awareness among all stakeholders of the possibilities offered by different software models, including proprietary, open-source and free software, in order to increase competition, access by users, diversity of choice, and to enable all users to develop solutions which best meet their requirements. Affordable access to software should be considered as an important component of a truly inclusive Information Society." (Geneva Declaration of Principles, paragraph 27)

[12] "Support research and development of the design of useful instruments for all stakeholders to foster increased awareness, assessment, and evaluation of different software models and licences, so as to ensure an optimal choice of appropriate software that will best contribute to achieving development goals within local conditions." (Geneva Plan of Action, Chapter 3, paragraph 10 j)

[13] "We reaffirm our desire to build ICT networks and develop applications, in partnership with the private sector, based on open or interoperable standards that are affordable and accessible to all, available anywhere and anytime, to anyone and on any device, leading to a ubiquitous network." (Tunis Commitment, paragraph 28)

"Our conviction is that governments, the private sector, civil society, the scientific and academic community, and users can utilize various technologies and licensing models, including those developed under proprietary schemes and those developed under open-source and free modalities, in accordance with their interests and with the need to have reliable services and implement effective programmes for their people. Taking into account the importance of proprietary software in the markets of the countries, we reiterate the need to encourage and foster collaborative development, interoperative platforms and free and open-source software, in ways that reflect the possibilities of different software models, notably for education, science and digital inclusion programmes." (Tunis Commitment; paragraph 29

[14] "….We support the development of software that renders itself easily to localization, and enables users to choose appropriate solutions from different software models including open-source, free and proprietary software (Agenda for the Information Society, paragraph 49) .