International Workshop
Free and Open Source Software for Information Processing and
Education in the Community of Portuguese Speaking Countries
(CPLP):
Experiences, Opportunities and Strategies
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UNESCO activities in the field of Free & Open Source Software (FOSS)

Information Society Division

UNESCO

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UNESCO's mission

- **Standard-setting action** *:* the preparation and adoption of international instruments and statutory recommendations.

- **Expertise:** provided to Member States for their development policies and projects in the form of "technical co-operation".

- **Prospective Studies**: what forms of education, science, culture and communication for tomorrow's world?

- **The advancement, transfer and sharing of knowledge***:* relying primarily on research, training and teaching activities.

How FOSS fits into UNESCO's mission and objectives?

- UNESCO is a UN specialized agency for the promotion of international co-operation and dissemination of knowledge; and

- the software development models used by the Free and Open Source Software movements are good examples of the power of sharing knowledge. These models encourage international solidarity, collaboration and voluntary community work amongst institutions, programmers and computer users.

UNESCO Free Software Portal

- In 2001, UNESCO began to lend its support to the Free Software/Open Source Movements, and has recognized that in the computer science field, these movements play a key role to extend and disseminate human knowledge.

UNESCO Free Software Portal

- The UNESCO Free Software Portal was developed and published in November 2001. It gives access to local and remote documents, which are reference works for the Free and Open Source Software movements, as well as to websites which are hosting the most popular and useful Open Source/Free software packages in UNESCO fields of competence.

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

UNESCO Free Software Portal

- UNESCO has also established a special agreement with the Free Software Foundation (FSF) for mirroring on UNESCO Free Software Portal and updating regularly the Free Software Directory. (http://fsd.unesco.org/directory/).

UNESCO Free Software Portal

- **Free and Open Source Software - a feasibi**|

  A Swedish study has concluded that open standards and formats, along with free and open source software, are important factors in arriving at increased competitiveness, improved interoperability and reduced costs for administration in the public sector.

UNESCO Free Software Portal

Free Open Source Migration Guidelines

- **European Commission's Open Source Migration G**
  . The IDA Open Source Migration Guidelines provide practical and detailed recommendations on how to migrate to Open Source Software (OSS)-based office applications, calendaring, e-mail and other standard applications.

- **German government publishes open source guideli**
  . A guide to migrating the basic software components on server and workstation computers.

UNESCO Free Software Portal

- The most popular category is " Courseware Tools" (proving that there is definitely a need).

- And the leader FOSS software are:
  - Moodle
  - ATutor

COL Learning Object Repository

- COL (Commonwealth of Learning) is creating an Open Source Learning Object Repository system based on integrating 2 open-source software packages: pakXchange, and eRIB. pakXchange implements a document repository system ("Library").

- Its features include comprehensive role-based administration of publications, and version control of publications. In addition, it enables users to define Learning Object Metadata for electronic files published into its Library and to subsequently enable the Library to be searched using the Metadata values.

COL Learning Object Repository

- eRIB is a Learning Object Respository demonstration system created by EduSource. eRIB contains a local repository. In addition, it provides a federated search feature that enables users to query Metadata from other EduSource Nodes as well as the internal repository, for interesting learning objects. eRIB does not provide role-based administration or version control for its contents.

- The COL Learning Object Repository system(or in short COL LOR) integrates eRIB and pakXchange such that the local repository of eRIB is disabled and replaced with pakXchange, and pakXchange is modified to act as an EduSource node for the purpose of searching.

- http://www.col.org/org

Greenstone Digital Library Software package

- UNESCO 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 & Open source Greenstone Digital Library software suite.

Greenstone Digital Library Software package

- Greenstone is distributed on CD-ROM and from sourceforge website, it includes:
  - ❖ the installation, user and developer documentation;
  - ❖ binary executable versions for Windows and GNU/Linux with user-friendly installers and model digital libraries; and
  - ❖ the whole source code of the software including the third party components also available under GPL licensing.

Greenstone Digital Library Software package

- Greenstone has been developed with UNICODE standard in mind and thus supports the creation of digital libraries with documents written in any language as well as the localization of the software itself.

Greenstone Digital Library Software package

- 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.

http://www.greenstone.org/

http://sourceforge.net/projects/greenstone/

Virtual Laboratory Toolkit

- In December 2002, the first edition of the UNESCO "Virtual Laboratory Toolkit" has been released on the World Wide Web and within UNESCO's Public@ series of representative "open access" CD-ROMs that are giving access to information in the public domain or to information provided on a benevolent basis by rights holders.

Virtual Laboratory Toolkit

- The Toolkit provides an extensive set of free (Free & Open Source Software) tools for:
  - ❖ person-to-person (P2P) communication (audio and video conference, scientific text chat, whiteboard, collaborative authorship, portal and mailing list management, etc.);

  - ❖ basic advice on person-to-equipment (P2E) communication.

Virtual Laboratory Toolkit

- The Toolkit is available for testing and application by scientists and other researchers, particularly in developing countries, who are interested in creating or participating in virtual laboratories.

http://virtuallab.tu-freiberg.de/

Consortium of FOSS Developers and Users in Latin America and the Caribbean

- In 2001, several international events to support free software happened:
  - Latin-American Workshop for the Promotion of Open Software in Education, Science, Culture and Social Areas (Havana, Cuba, 25-27 June 2001).
  - Free Software International Forum (Porto Alegre, Brazil, 29-31 May 2001)
  - Free Software Regional Meeting (Montevideo, Uruguay, Meeting (Montevideo, Uruguay, 28-30 June 2001

LACFREE Software Libre Conference 11,12,13 August in Cusco, Peru

- In the framework of the Free Software Developers and Users Consortium, initiated by UNESCO Montevideo and Lima Offices, the Latin American and Caribbean Conference on Free Software Development and Usage (LACFREE) took place in Cuzco, Peru, from 11 to 13 August 2003.

LACFREE II

- The Latin American and Caribbean Conference of Free Software Developers and Users - LACFREE 2005 will take place in Recife, Brazil, in September, 2005.

Migration of UNESCO Freeware Information Processing Tools to the Open Source Development model.

- UNESCO has acquired long experience in the development and dissemination of UNESCO information processing and management tools.

- CDS/ISIS and IDAMS are well-known examples and are used world-wide. Much expertise and knowledge are embedded in these tools and all related documentation.

CDS/ISIS

- The computerized Documentation System CDS/ISIS is a tool developed and distributed by UNESCO free-of-charge to libraries and information centers worldwide for almost 20 years now. Around 18,000 registered users worldwide.

- Some third party components have already been developed using the Open Source model like the Marc21Lite support module, developed in cooperation with the Library of Congress.

IDAMS

- IDAMS (Internationally Developed data Analysis and Management Software), is a software package for data mining, numerical information processing and statistical analysis.

- IDAMS has been distributed to more than 5600 users (individuals or institutions).

- OpenIDAMS will be launched in 2004.

Open eNRICH

- The National Informatics Centre (NIC) in Delhi, the Open Knowledge Network (OKN) and UNESCO announce a partnership to develop a new software tool – to be called Open eNRICH - for the creation and exchange of locally relevant knowledge within and between communities in developing countries.

Open eNRICH

- People from the local communities create and exchange content in local languages on all kinds of topics of importance to them - health, education, employment, agriculture, weather etc. and in different media - audio, video, SMS as well as text. There is a legal underpinning so that information contributed is freely shareable - i.e. "open content".

KEWL.NextGen
Knowledge Environment for Web-base Learning
Next Generation

- UNESCO support the open source development of the next generation learning management system that is under development as part of the AVOIR project.

KEWL.NextGen – AVOIR Project
African Virtual Open Initiatives and Resources

- This project is about harnessing the enormous potential that exists within Africa and the African diaspora to create a core of developers of free software who are able, through software development activities, to create educational and business opportunities that contribute to development on the continent.

- Although world class software will be produced within this project, this is not a software development project. Rather it is a project about human development, about capacity building, and about creating opportunities for people through the formation of transnational alliances both within Africa and out.

KEWL.NextGen – AVOIR Project
African Virtual Open Initiatives and Resources

- The basic idea is a simple one. An existing open source application developed at UWC, which is a sophisticated learning management system called KEWL (Knowledge Environment for Web-based Learning) will be used as the basis for building a next-generation learning management system.

- To achieve the next generation system, it will be necessary to modularize the existing system and convert it entirely to PHP. This will give to the participants the basis from which to build the most advanced learning management system in the world, using largely talent that exists within African higher education, other organizations, the Diaspora, businesses, and partners around the world.

UNESCO IIEP Internet Discussion Forum on Free and Open Source Software for e-Learning

- The forum was launched in 2004 by IIEP in response to the interest expressed during their first discussion forum Virtual universities and e-learning Policy issues – What are they? and Whose are they? associated with the IIEP study on the virtual university and e-learning.

- The objective of this second forum was to support information exchange and reflection upon the potential of free and open source software for e-learning, and to consider the pros and cons and its applicability for developing countries.

- The forum took place from 1-25 June 2004 and was followed by 260 participants from 65 countries. The forum was included two sessions (Session 1: FOSS – what is it and what should you know about it? and FOSS for e-learning – what are the pros and cons?/ Session 2: FOSS solutions for e-learning).

Forum on FOSS
Policy and Development Implications

- The Free and Open Source Software(FOSS) e-discussion, is being launched to debate on Policy and Development Implications of using FOSS and to build wider consensus on FOSS as an innovative Intellectual Property Rights (IPR) framework, which can be used to stretch the development dollar and dramatically scale up the impact of various interventions.

- This forum is a joint initiative of Bridges.org, (Cape Town, South Africa);
Free and Open Source Software Foundation for Africa (FOSSFA), (Nairobi, Kenya); OneWorld South Asia (OWSA), (New Delhi, India); UNDP-APDIP International Open Source Network (IOSN), (Kuala Lumpur, Malaysia);
UNDP Asia-Pacific Development Information Programme (APDIP/UNDP), (Kuala Lumpur, Malaysia); and UNESCO United Nations Educational, Scientific and Cultural Organization (U (Paris, France)

Forum on FOSS
Policy and Development Implications

- The issues being considered central to this debate are:

- Opportunities and drawbacks of FOSS for developing countries – the roles of government, civil society, business in the process

- FOSS & Millennium Development Goals (MDGs) – stretching the development dollar for scaling-up impact

- The global Intellectual Property Concern - Business monopoly of first world nations software giants versus third world collaborative efforts.

- Enabling legal/regulatory/policy framework for country specific strategic evolution FOSS.

Forum on FOSS
Policy and Development Implications

- Open-source processes outside the software sector – Free Medicine, Seed Bank, Open Access, Open Archiving etc.

- Comparison of proprietary software vis-à-vis FOSS in terms of technical merits –reliability, stability, and vulnerabilities, especially in the context of national security.

- FOSS versus Public Domain Software and Freeware – the Total Cost of Ownership (TCO) of FOSS.

- Understanding why individuals contribute to FOSS projects and what motivates FOSS developers to "donate" their time and are these motivations different in developed and developing countries? Are there constraints, especially in developing countries, that could be addressed by government or private sector interventions?

Forum on FOSS
Policy and Development Implications

- The forum will bring out a policy document encompassing the viewpoints of the discussants, besides presenting the outcomes in upcoming thematic meetings being organized parallel to the World Summit on the Information Society process.

- To take part in the forum, you can subscribe through the FOSS-PDI website:

- http://lists.apdip.net/cgi-bin/mailman/listinfo/foss-pdi

Forum on FOSS
Policy and Development Implications

- Link(s):
- Bridges.org - (http://www.bridges.org)
- Free and Open Source Software Foundation for Africa (http://www.fossfa.net)
- International Open Source Network (http://www.iosn.net)
- OneWorld South Asia (http://www.oneworldsouthasia.net)
- UNDP - Asia Pacific Development Information Programme (http://www.apdip.net)
- UNESCO - United Nations Educational, Scientific and Cultural Organization (http://www.unesco.org)
- UNESCO Free Software Portal - (http://www.unesco.org/webworld/portal_freesoft)
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Study - Economic evaluation of Free and Open Source software (FOSS) solutions for African education.

- This activity is intended to provide a definitive statement and guidelines on the relative advantages and disadvantages of FOSS compared with proprietary software solutions for use in African education, paying particular attention to the economic factors that need to be considered by governments, officials and educators in determining the software environments that they will develop or finance.

Economic evaluation of Free and Open Source software (FOSS) solutions for African education.

- IMFUNDO is the team within DFID (UK Department for International Development) which creates partnerships to deliver ICT-based activities supporting gender equality and universal primary education in sub-Saharan Africa

http://imfundo.digitalbrain.com/imfundo/

Study - mla on " Promoting ICT-enhanced learning"

- Report on the emergence of Free and Open Source (FOSS) learning support systems and digital library systems used in education, and their evaluation in terms of UNESCO's needs and objectives.

- The report is intended for informatics specialists in education and should set the background, define the fundamental concepts, compare and evaluate the alternate FOSS learning and digital library systems used in education in terms of functionality and compatibility, and should be accompanied by an analytical inventory of existing software.

Thank you for your attention

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