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**UNESCO Montevideo Office**

# UNESCO's support to digital libraries for building knowledge societies

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*Communication and Information in MERCOSUR and Chile*





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# Content

1. Building Knowledge Societies
2. Knowledge acquisition and sharing
3. Digitization and preservation
4. New ISIS web
5. UNESCO and Greenstone



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# 1. Building Knowledge Societies

- Appropriateness of the expression knowledge societies.
  - What types of knowledge are we talking about?
  - What about imbalances that mark access to knowledge
  - The obstacles confronting it, both locally and globally?
- 
- The first UNESCO World Report on Knowledge Societies (2005) includes the scope of UNESCO's field of competence: education, science, culture and communication.
  - To remain human and livable, knowledge societies will have to be societies of shared knowledge.
  - The plural sanctions the need for an accepted diversity.



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## UNESCO's concept of knowledge societies with four basic principles:

- (1) Freedom of Expression,
- (2) Quality education for all,
- (3) Respect for cultural and linguistic diversity,
- (4) Universal access to information and knowledge

### Knowledge acquisition and sharing

- is changing radically
- will increasingly be technology mediated
- traditional educational processes will/have to adapt appropriately.
- importance of acquiring factual knowledge will decrease
  - ability to find, judge, organize and creatively use relevant information central
  - capability to learn, will become more important
- Consequence: Interactive media literacy has to be implemented.



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## 2. Knowledge acquisition and sharing

- Multistakeholder partnerships shall provide sustained, long-term real solutions for ICT applications in knowledge acquisition and knowledge sharing.
- Over the past 10 years increase of the dependence of global development processes from the ability to efficiently produce, disseminate and use information and knowledge.
- Lack of access to knowledge relates to marginalization and economic deprivation



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## 3. Digitization and preservation

UNESCO Information for all program (IFAP 2006): recommendations on digital preservation for governments and private sector.

Two basic tasks for preservation of information

- bring documents into repositories
- preserve documents

### Preserving documents

- The paradox reverse relation between age of document technology and longevity: *clay tablets, papyrus vs digital files*
- Additional threat for machine readable documents: availability of specific hard and software



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# The role of digitization

## All kinds of documents

- Opening new dimensions of democratic access
- Secondary preservation by lifting stress from originals by use

## Audio and video documents

- Indispensable measure for long-term preservation by subsequent migration



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## Digitization ≠ Preservation

- Generally, text and photographic materials are preserved in their original forms, digital copies are surrogates for access only
- Audio and video: digitization is not the final solution for preservation, but only a first step
- Digital files are the most endangered species amongst documents, *vulnerable and volatile*



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# Digitization

Long-term preservation of digital information is a considerable technical, strategic, and financial challenge

Present digital preservation costs:

5-8 \$ or € /GB/year

**Projected aim to be reached:**

**1 \$ or € /GB/year**



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# UNESCO Memory of the World Sub-Committee on Technology

- Kevin Bradley: *Risks Associated with the Use of Recordable CDs and DVDs as Reliable Storage Media in Archival Collections - Strategies and Alternatives, Paris, UNESCO 2006* [www.unesco.org/webworld/risk](http://www.unesco.org/webworld/risk)
- Kevin Bradley: *Towards an Open Source Repository and preservation System. Recommendations on the Implementation of an Open Source Digital Archival and Preservation System and on Related Software Development. UNESCO, Paris 2007.*

<http://www.unesco.org/webworld/en/mow-open-source>



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## 4. ISIS Network-based Platform (1)

- Two-day consultation of the potential CDS/ISIS funding partners to elaborate a project proposal for the development of a new open source CDS/ISIS and to set up the funding mechanisms.
- Proposal for an open source ISIS Network Based Platform project, (15-16 May 2006 - UNESCO HQ)



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## Web-ISIS

- **ISIS (Integrated Set of Information System)** comprises a family of software systems oriented to storage and retrieval of textual based information sources of the bibliographic type.
- ISIS is used worldwide to manage libraries and information systems in different regions, languages and cultures.
- In addition to library catalogues, ISIS presents efficient solutions to operate full texts and directories, with high flexibility to generate and operate retrieval indexes.



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# BIREME and partnership strategy

## The ISIS – Network Based Platform Project

- aims to rethink the architecture and tools of classic ISIS textual databases, aiming to bring that technology to the state-of-the-art in Computer Science
- aims to adopt methodologies and tools following the Free and Open Source Software (FOSS) development model and guidelines.
- restructuring of ISIS architecture can ease the path to incorporate new functionality and services, improve performance and interoperability, reduce maintenance costs, stretch scalability and leverage its adoption
- FOSS model fosters socio-economic development and people empowerment



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## **The core of the ISIS-NBP proposal:**

- rethinking CDS/ISIS model and moving towards a XML-based data model
- adopting a mixed storage strategy, accommodating from traditional ISIS master files to full Native XML Databases
- improving scalability through the adoption and deployment of operational units called ISIS Cells
- increasing interoperability by supporting several access protocols
- providing a migration path to avoid a disruptive technological transition



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## The ISIS-NBP proposal reflects relevant projects in the digital library domain

- **Fedora:** Flexible Extensible Digital Object Repository Architecture
- **DSpace:** FOSS package for management of digital assets; basis for an institutional repository.
- **Milos**
  - Multimedia Content Management System to support design and effective implementation of digital library applications.
  - Advanced XML Search Engine
- **Greenstone**
  - software for building and distributing digital library collections
  - provides a fully-searchable tool for building metadata-driven digital libraries

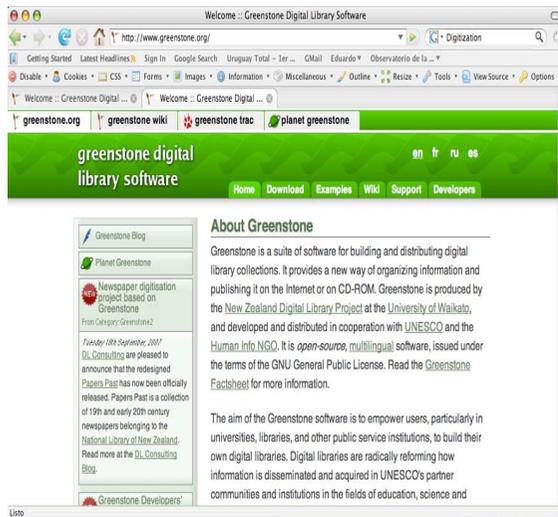


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## 5. UNESCO Greenstone project (1)

Greenstone Digital Library software has grown out of the research environment of the New Zealand Digital Library project.



- building and distributing digital library collections
- opening up new possibilities for organizing information
- making information available over the Internet or on CD-ROM
- Greenstone based collections worldwide available

UNESCO is participating in developing and distributing Greenstone.

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## UNESCO Greenstone project (2)

The Greenstone project is an international cooperative effort with UNESCO established in August 2000.

This initiative will encourage the effective deployment of digital libraries to share information and place it in the public domain.

The software is distributed on a CD-ROM with

- all interfaces, help text,
- user guides and developer manuals
- installation instructions and readme files in English, French and Spanish.

The UNESCO project is support to build new information collections as strategy for sustained social development.



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## Digital Library Course content

- Libraries, information technology and digital information. Introduction to digital libraries. Qualifications for digital migration.
- Metadata. Digital formats. Conservation and the future of digital formats.
- Digital libraries and Free and Open Source Software. Introduction to different programs.
- Greenstone. Conceptual aspects. Introduction to the software. General data. Available manuals.
- Greenstone. Hands on experiences. Installation. Building digital collections.



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## Courses organized

- UNESCO course for Latin America on Building Digital Libraries was held 2005 in Fortaleza, Ceará, Brasil (<http://clacbd.lia.ufc.br/>)
- UNESCO course held 2005 in Montevideo, Uruguay, mainly for libraries in Mercosur countries. 29/08-2/09/2005
- October 2007 a Greenstone course is organized with the communication department of the Universidad de la Republica, Montevideo, Uruguay.  
One objective is to improve the facilities for the digital library of the archive of the press in Uruguay

**Thank you**



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