



Knowledge Communities: Rising to the
Performance Challenges

DIGITAL LIBRARIES

Greenstone Digital Library Software: Feasibility, Features, Functionalities and the Future

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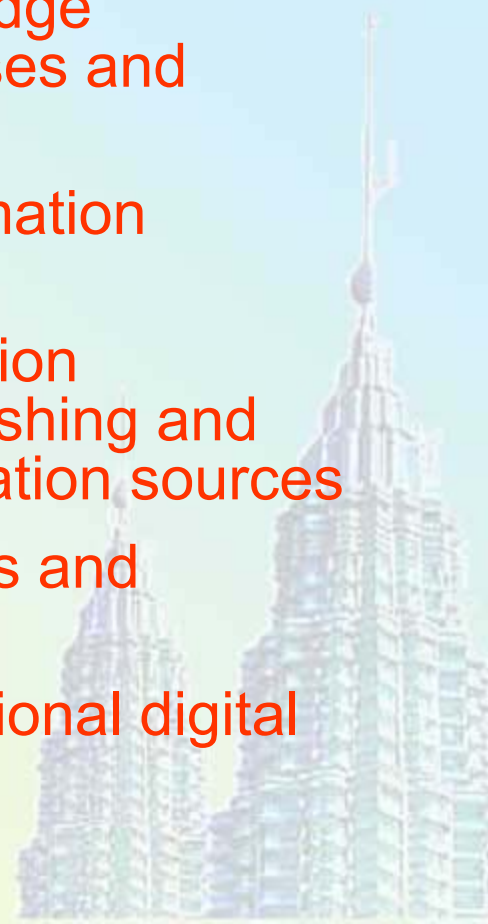
18 – 20 FEBRUARY 2008

In collaboration with



Foreword

- Digital Libraries gaining increasing social attention, academic and research interest
- Demand for improved information and knowledge management solutions - universities, enterprises and institutions
- Need for Integrated access to disparate information resources
- Key challenge - how to create online information environments facilitating internal content publishing and single point access to internal/external information sources
- Latest DL technologies **Vs** Traditional libraries and knowledge management
- Fortunately we have a large number of operational digital libraries and services



The Current Environment

- **Fascinating times in the history of libraries, information systems and electronic publishing**
- **Possibilities of building large-scale services**
 - **Collections are in digital formats and**
 - **Retrieved over networks**
- **Materials are stored on computers**
- **Network connects the computers to personal computers on the users' desks**
- **In a complete digital library, nothing need ever reach paper**



Top Tech Trends in IT / LIS

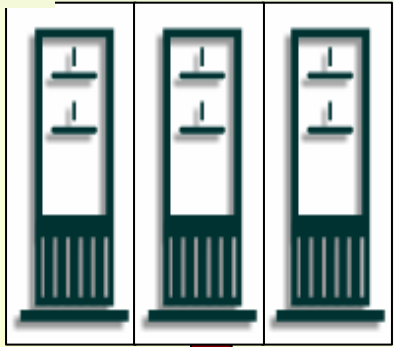
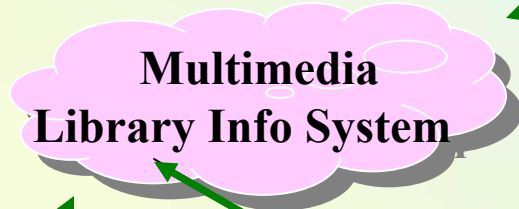
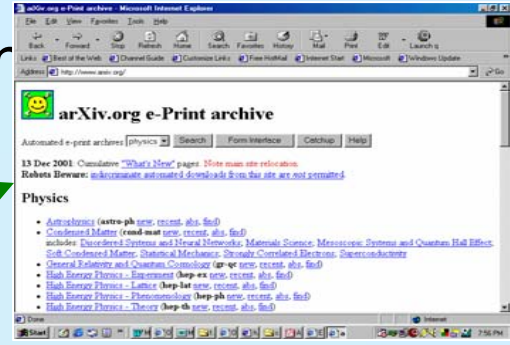
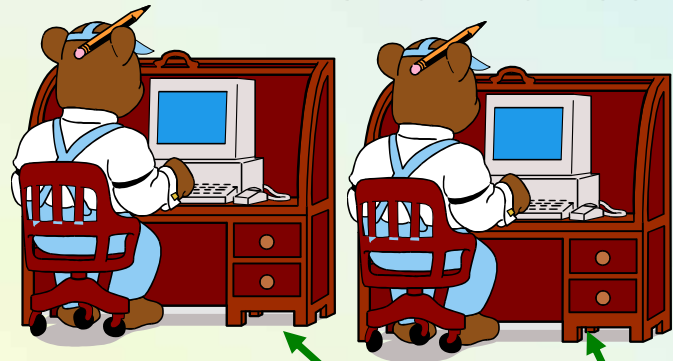
- **Web 2.0 / Library 2.0**
- **Blogs / RSS Feeds / Wikis / Podcasts / Webcasts**
- **Open Source Software, Open Standards, Open URL**
- **User Tagging, Automated Tagging**
- **Web OPACs, and Interface Design**
- **Seamless Integration / Aggregation**
- **OA -> OAP + OAA**
- **Open Resource Discovery Tools - Google Scholar**
- **E-Books, E-Journals, E-Resources**
- **Harvesting, Federation, Metasearching**
- **Digital Rights Management**



Knowledge Communities: Rising to the Performance Challenges

L 1.0		L 2.0
Closed stacks	-->	Open stacks
Collection development	-->	Library suggestion box
Preorganized ILS	-->	User tagging
Walk-in services	-->	Globally available services
"Read-only" catalog	-->	Amazon-style comments
Print newsletter mailed out	-->	Team-built blog
Easy = dumb users	-->	Easy = smart systems
Limited service options	-->	Broad range of options
Information as commodity	-->	Information as conversation
Monolithic applications	-->	Flexible, adaptive modules
Mission focus is output	-->	Mission focus is outcome
Focus on bringing 'em in	-->	Focus on finding the user
ILS is core operation	-->	User services are core

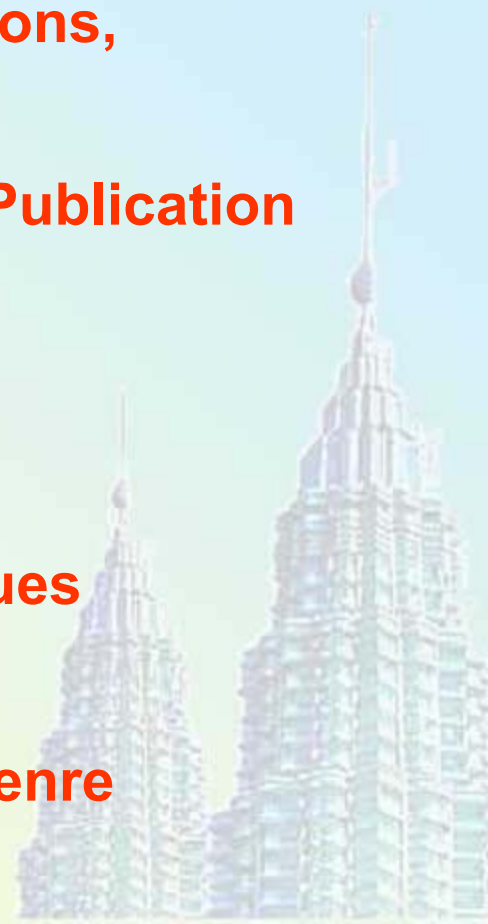
Knowledge Communities: Rising to the Performance Challenges



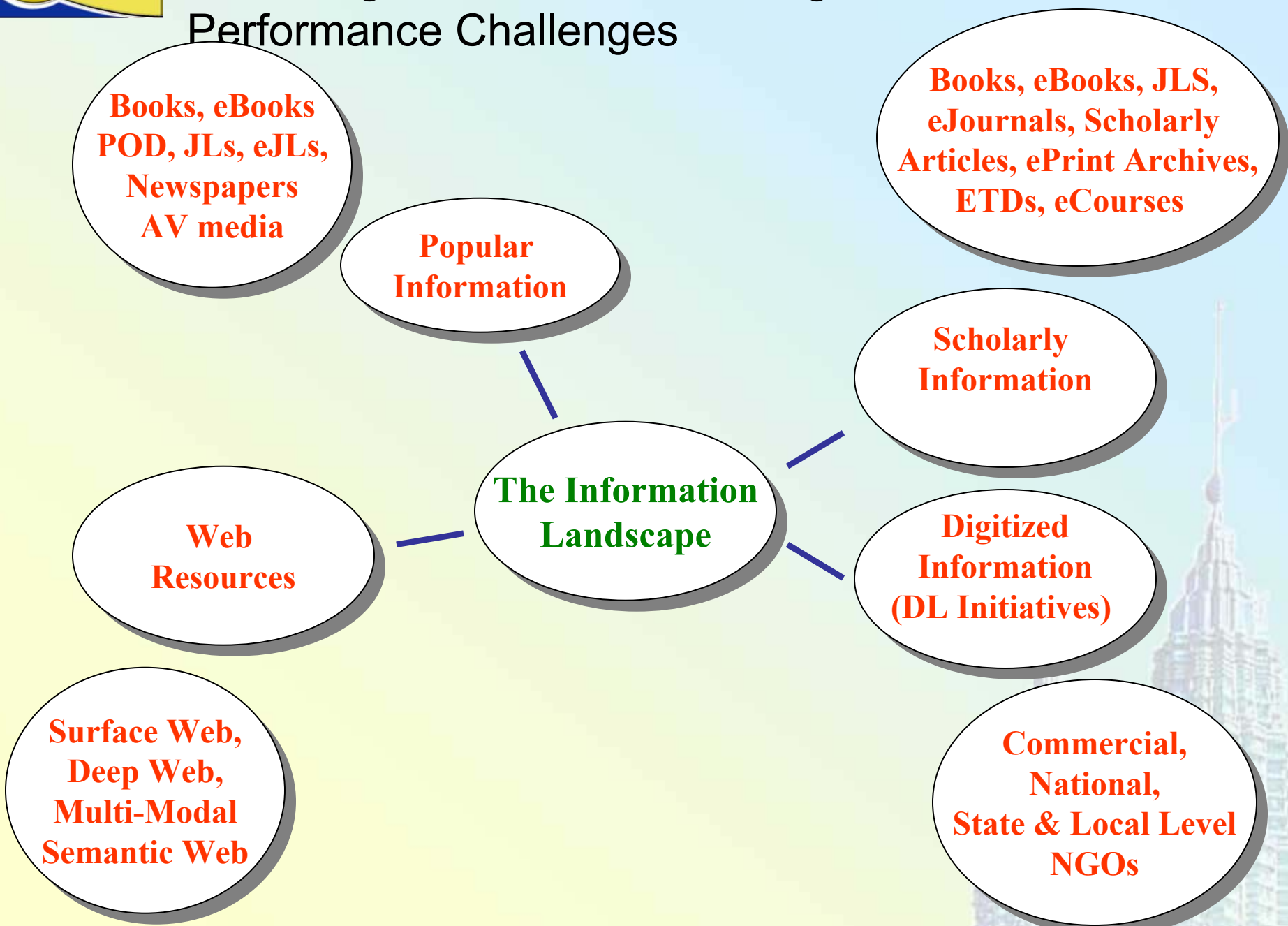
USER @ anywhere (access to information from anywhere)

Challenges of the Day

- **Collection Building – Acquisition, Subscriptions, Licensing...**
- **Diverse Datastreams - Content Categories, Publication Types**
- **Multimedia, Polymedia, Multiformats**
- **Copyright, Intellectual Property, Fair Use...**
- **Technology Complexities, Infrastructure Issues**
- **Publishers' Stringent Policies / Monopolies**
- **Integration of legacy systems and the new genre**



Knowledge Communities: Rising to the Performance Challenges



Penetration of E-Content in Libraries

PUBLICATION TYPES

- E-Books, E-Journals...
- Aggregated Scholarly E-Journal Databases
- Databases, CBT/ WBT
- Portals, Vortals...
- Value added services
- Preprints, Eprints, E-Documents....

DOCUMENT FORMATS

- ASCII, RTF, HTML, SGML, Postscript, PDF, Proprietary, Native Application Formats
- Images, Graphics
- Audio
- Video
- XHTML, ASP, PHP, XML ...

What's a DL ?

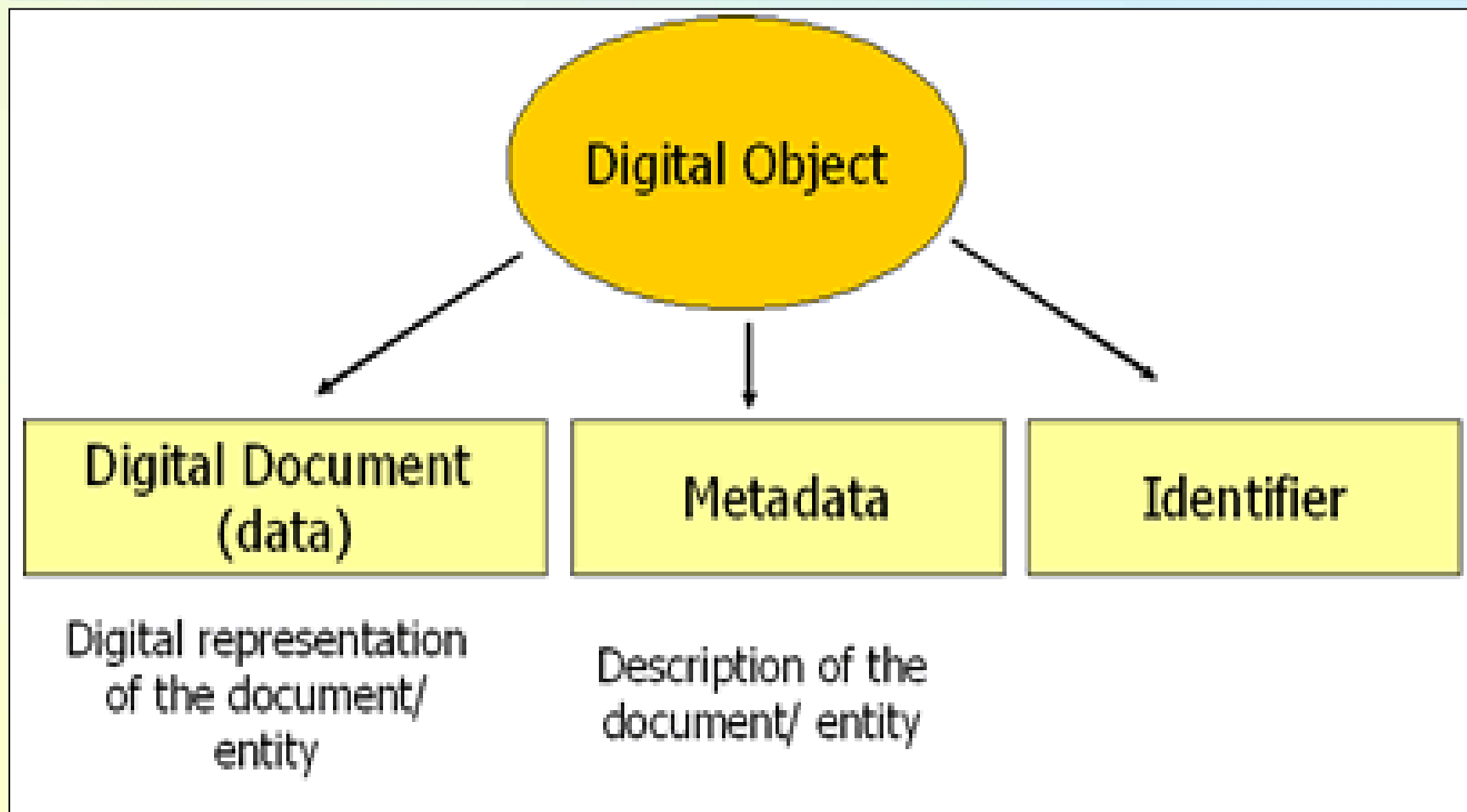
- "Digital libraries are organized collections of digital information. They combine the structuring and gathering of information, which libraries and archives have always done, with the digital representation that computers have made possible." ([Michael Lesk](#))
- "Is a managed collection of information, with associated services, where the information is stored in digital formats and accessible over a network. A crucial part of this definition is that the information is managed. A stream of data sent to earth from a satellite is not a library. The same data, when organized systematically, becomes a digital library collection." ([William Arms](#))
- Digital library is "a focused collection of digital objects, including text, video, and audio, along with methods for access and retrieval, and for selection, organization, and maintenance of the collection." ([Ian Witten and David Bainbridge](#)).
- "Digital libraries are different [from traditional library automation] in that they are designed to support the creation, maintenance, management, access to, and preservation of digital content. ([Bernie Hurley, the Director for Library Technologies at U.C.Berkeley. Quoted in Digital library technology trends. Sun Microsystems. August 2002](#))

What is a “digital library”?

Collection of digital objects (text, video, audio) along with methods for access and retrieval, [user] and for selection, organization, and maintenance [lib]

- ❖ **Traditional user/librarian distinction is blurred**
- ❖ **Computers make information active**
- ❖ **Kitchens for knowledge preparation**
- ❖ **WWW ≠ DL!—organization, selectivity**
- ❖ **Nice Web site ≠ DL!—import new documents easily**

Digital Objects



Space Requirements: For 100,000 Articles (Text) having 5 pages each

Characters/Page	2,000	
Characters/Article	10,000	5 pages/article
Characters/Collection	1,000,000,000	100,000 articles/collection
Raw Data Bytes	1,000 MB	1 byte/character
Database Structure Overhead	200 MB	1 page/article = 2 KB/article
Index Overhead	1,000 MB	100% of raw data
Bib Records Overhead	150 MB	500 bytes + 200%/article
Subtotal	2,350 MB	
Processing, RAID, etc.	780 MB	33%
Total	3,000 MB	= 3 GB

Space Requirements: For 100,000 Images (640X480 in 256 colours)

Bytes/Image	300,000	
Raw Data Bytes	30,000 MB	100,000 images
Database Structure Overhead	100 MB	1 KB/image
Feature Index Overhead	20 MB	200B/image
Bib Records Overhead	150 MB	500 bytes + 200%/image
Subtotal	30,370 MB	
Processing, RAID, etc.	10,115 MB	33%
Total	40,460 MB	= 40 GB

Knowledge Communities: Rising to the Performance Challenges

Space Requirements: For 100,000 Audio Recordings (Half Sound, 8 Bit 11 KHz- Mono and 16 Bit 44 KHz Stereo, 10 Mins each)

Bytes/Sound Clip	600 KB	10 minutes @ 1 KB/sec
Bytes/Music Clip	10,200 KB	10 minutes @ 17 KB/sec
Raw Data Bytes	540,000 MB	50,000 sound and 50,000 music
Bib Records Overhead	150 MB	500 bytes + 200%/article
Subtotal	540,150 MB	
Processing, RAID, etc.	180,000 MB	33%
Total	720,150 MB	= 720 GB

Space Requirements: For 100,000 Video Clips (320X200 and 256 colours at 15 fps)

Bytes/Video	15 MB	0.25 MB/sec assuming 4:1 compression
Raw Data Bytes	1,500,000 MB	100,000 articles/collection
Feature Index Overhead	200 MB	10 images/clip and 200B/image
Bib Records Overhead	150 MB	500 bytes + 200%/article
Subtotal	1,500,350 MB	
Processing, RAID, etc.	500,000 MB	33%
Total	2,001,350 MB	= 2,000 GB = 2 TB (Terabytes)

Agenda

- Digital Library – Concepts, Principles and Technologies, Architecture...
- Open (Source) Digital Libraries
- Metadata – Concepts, Functions and Standards
- Greenstone Digital Library Software
- Unleashing Greenstone
- Greenstone Demo



Agenda... Demystifying Greenstone

- **Installing Greenstone**
- **JRE, ImageMagick and Ghostscript**
- **Collection Building**
 - ✉ **Greenstone Librarian Interface (GLI)**
 - ✉ **GLI Features**
 - ✉ **Introducing/Editing the CFG file**
 - ✉ **Multi-Lingual Collections**
- **Getting the Hierarchy Structure**
- **Customization of User Interface**
- **Greenstone Demo**



Libraries - Shifts

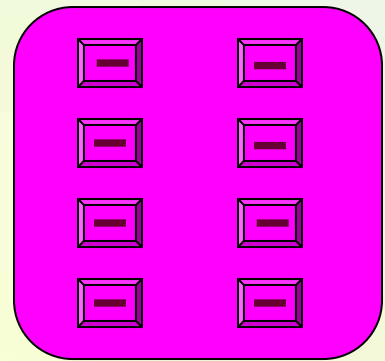
- Traditional / Automated
 - » Organization is physical
 - » Shelving of documents - Based on Subject CIn
 - » Key - Index / Catalogues / Cards / Digital Catalgs
 - » Cards - Real/Virtual - Author, Title, Descriptions
- Digital
 - » Organization in terms of digital files /objects
 - » Contains material digitized form
 - » Contains digital material
 - » Architecture
 - » Key - Metadata



Shift in Approaches

Traditional

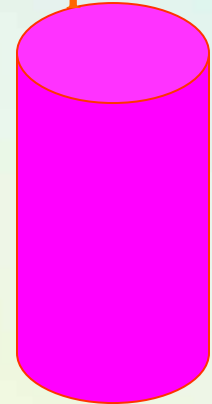
Limited/ Rigid



- AACR2
- CCC
- CC / LCCS
- DDC / UDC
- Thesauri/LCSH

Automated

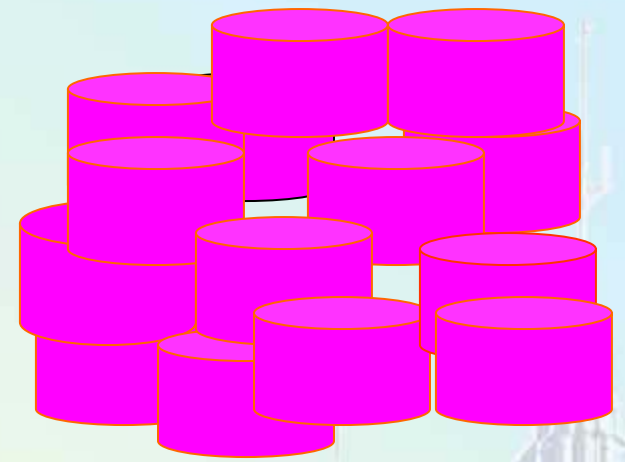
Improved



- AACR2
- ISO 2709
- CCF
- MARC
- Thesauri

Dig. Library

Efficient/ Flexible



- Metadata
- DCMI -- W3C
- EAD, TEI, DTD
- METS,MODS,
- Z39.50
- MARC21
- OAI-PMH

Features of Digital Libraries...

- Dynamic Electronic Information Systems
- Seamless Aggregation and Integration of Scholarly Content
- Create / Maintain Local Content
- Strengthens - mechanisms and capacity - Information Systems / Services
- Increase Portability
- Efficiency of Access
- Flexibility
- Availability
- Long term preservation

Special Requirements

- Infrastructure
- Acceptability
- Access Restrictions
- Readability
- Standardization
- Authentication
- Preservation
- Copyright
- User Interface



Need for Content Integration / Organization

- Assuring Seamless Access to the Content
- Need for a single Info. Gateway / Access Point
- Multi - Formats, Media, Platforms (Content / Data in different formats)
- Data encoding (role of markup languages)
- Role of Metadata (role of Standards)
- Structured Metadata (role of XML)
- Need for Interoperability
- Interface / Delivery / Presentation
- Exorbitant cost of proprietary DL S/W



Digital Library Technologies

- Open architectures (Open DLs)
- Componentized vs Monolithic systems
- Interoperability (role of Z39.50, OAI etc.)
- Unified interface for heterogeneous libraries
- Metadata mapping across different libraries
- OAI-compliant data and service providers
- Multilingual digital libraries
- Scalable digital library architectures
- Publication tools
- Searching tools



Software Selection

- Goals and Requirement Specification
 - Proprietary Vs Open Source
 - Fit the existing Information System
 - Accommodate future migration
 - Embrace all possible/predominant formats
 - Support standard DL technologies/platforms
 - Easy installation, population, maintenance
 - Comprehensive Documentation
 - Software Development Team
 - Active User Groups, E-Mail Lists (Users / Developers)
- 

Traditional Library Standards: MARC

History:

- Originally devised by the Library of Congress, 1966: MARC 1
- Format designed with magnetic tape in mind!
- 1967/8 expanded through collaboration with British Library
- Led to two broad versions: UK ... subfields ...
- Many international variations: tend to follow US MARC or UK MARC
- Used as an exchange format or a communication format

USMARC

CAN/MARC

FINMARC

UKMARC

DANMARC

UNIMARC

CHINA-MARC

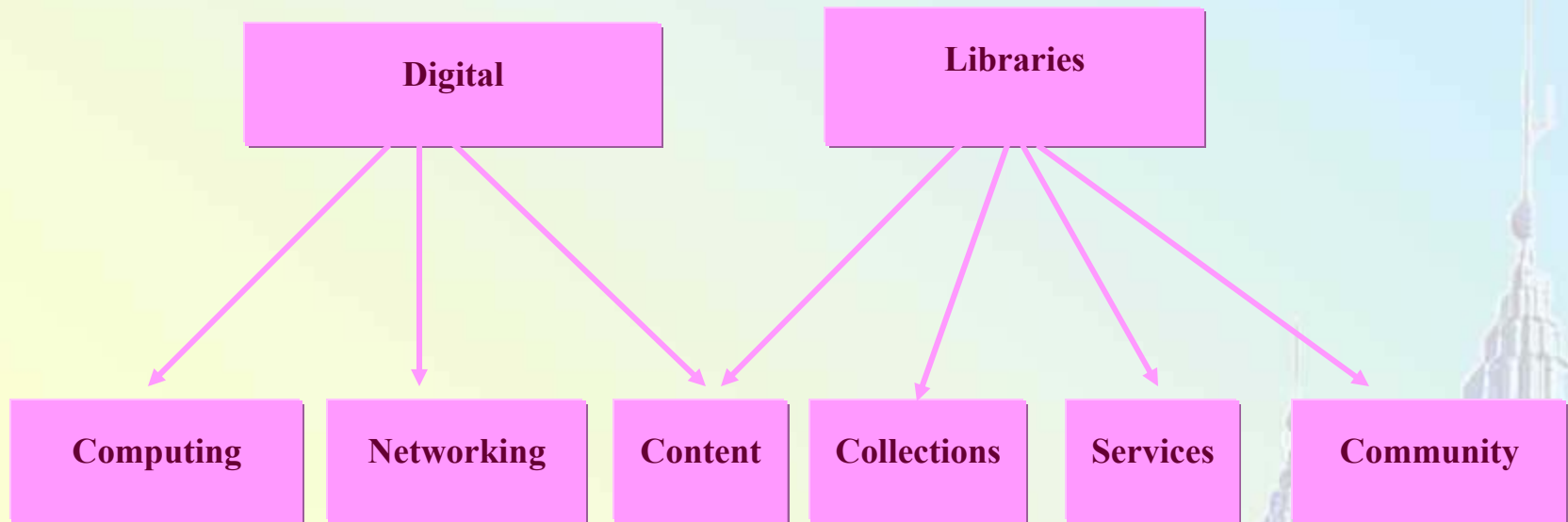
MARC21

What Distinguishes a DL?

- Site Neutrality (3 in 1 Access-Anytime, Anywhere by Anyone Access)
- Open Access
- Greater variety and granularity of information
- Sharing of information 'Sharium'
- Up-to-date ness
- Always available (365*7*24)
- New forms of rendering (New Genre)



Digital Libraries: An Overview



What are digital libraries for?


- Knowledge/content management
 - Manage and access internal information assets
 - Scholarly communication, education, research
 - E-journals, e-prints, e-books, data sets, e-learning
 - Access to cultural collections
 - Cultural, heritage, historical & special collections, museums, biodiversity
 - E-governance
 - Improved access to government policies, plans, procedures, rules and regulations
 - Archiving and preservation
 - Many more ...
- 

DL Software: Alternatives

- What are your expectations?
- Develop local web-based application?
- Commercial DL solution?
- Adopt open source software?
 - Greenstone
 - Eprints
 - DSpace
 - Fedora...



Digital Library Technologies

- Interoperability
 - Unified interface for heterogeneous libraries
 - Metadata mapping across different libraries
 - OAI-compliant data and service providers
 - Multilingual digital libraries
 - Scalable digital library architectures
 - Publication tools
 - Searching tools
- 

DLs: Workflows and Processes

- **Content selection**
- **Content acquisition**
- **Content publishing**
 - **Metadata preparation**
 - **Content loading**
- **Content indexing & storage**
- **Content access & delivery**
- **Preservation**
- **Access management**
- **Usage monitoring and evaluation**
- **Networking and interoperation**
- **Maintenance**



DL Software: Key requirements

- Document types (book, journal article, lecture ...)
- Document formats (text, PDF, Word, PS, ...)
- Content acquisition (online and offline)
 - Metadata description, content tagging
 - Content uploading
- Indexing and retrieval
 - Structured/ full text indexing
 - Automatic metadata extraction
- Storage
 - Data compression
 - Efficient storage for metadata
 - Efficient location of metadata and documents
- Access and delivery
 - Structured search, browse, hierarchical browsing
 - CD-ROM distribution



DL Software: More requirements

- Scaling up – for large collections
- Multilingual support
- Access management and security
- Usage monitoring and reporting
- Standards compliance
 - XML, Dublin Core, Unicode
- Interoperation
 - OAI, Z39.50 compliance, MARC, CDS/ISIS, ...



Metadata

General Definition

- Metadata in its broadest sense is **data about data**
- Documentation about documents and objects
- Describing (Tagging) the contents of the object
- For Information Discovery from the Resource Base

Internet context

- **Data** describing the attributes of an electronic resource **on the net**
- **Dublin Core (DCMI) – WWW Consortium Standard**
- **XML - The tool**

Dublin Core Metadata Initiative

Metadata Definition

The Basics: 22 Elements

Content

Title

The name given to the resource by the creator or publisher

Creator

The person responsible for the intellectual content of the resource

Subject

The Topic of the resource

Description

A textual description of the content of the source

Publisher

The Entity responsible for making the resource available

Contributor

A person or organization (other than the Creator) who is responsible for making significant contributions to the intellectual content of the resource

Date

A date associated with the creation or availability of the resource

Type

The nature or genre of the content of the resource

Format

The physical or digital manifestation of the resource

Identifier

An unambiguous reference that uniquely identifies the resource within a given context

Source

A reference to a second resource from which the present resource is derived

Language

The language of the intellectual content of the resource

Relation

A reference to a related resource, and the nature of its relationship

Coverage

Spatial locations and temporal durations characteristic of the content of the resource

Rights

Information about rights held in the resource

Responsibility

Manifestation



Knowledge Communities: Rising to the Performance Challenges


Dublin Core Metadata Initiative (DCMI) - Windows Internet Explorer

http://dublincore.org/

File Edit View Favorites Tools Help

Search Web

Dublin Core Metadata Initiative (DCMI)



Dublin Core Metadata Initiative®

Making it easier to find information.

ABOUT THE INITIATIVE

DCMI NEWS

DOCUMENTS

TOOLS AND SOFTWARE

GROUPS

PROJECTS

RESOURCES

AskDCMI

Overview

- [About the Initiative](#)
- [Directorate](#)
- [Board of Trustees](#)
- [Usage Board](#)
- [Advisory Board](#)
- [Architecture Forum](#)
- [By-laws](#)

Ready Reference

- [DCMI Metadata Terms](#)
- [DCMI Element Set \(ISO Standard 15836\)](#)
- [DCMI Abstract Model](#)
- [Encoding Guidelines](#)
- [Schemas](#)
- [User Guide](#)

DCMI Registry

The Dublin Core Metadata Initiative is an open organization engaged in the development of interoperable online metadata standards that support a broad range of purposes and business models. DCMI's activities include [work on architecture and modeling](#), discussions and collaborative work in [DCMI Communities and DCMI Task Groups](#), annual [conferences and workshops](#), standards liaison, and educational efforts to promote widespread acceptance of metadata standards and practices. [Learn more...](#)



International Conference on Dublin Core and Metadata Applications

22 - 26 September 2008

DC-2008 Call for Papers published

2007-12-03, The [Call for Papers](#) for DC-2008, to be held 22-26 September 2008 in Berlin, is now available from the [conference Web site](#). The theme of the conference is "Metadata for Semantic and Social Applications". Papers, reports, and poster submissions addressing the conference theme as well as a wide range of metadata topics are welcome. Please note that the submission deadline for papers, reports and posters is **30 March 2008**.

Major update of DCMI Metadata Terms documentation

Contact Us

- [Subscribe](#)
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- [Feedback](#)

Work in Progress

- [Public Comment](#)
- [DCMI Work Structure: Communities, Task Groups](#)

Events

- [DCMI Conferences and Workshops](#)

Affiliates

Finland

- [Helsinki University Library/The National Library of Finland](#)

UK

- [MLA - Museums, Libraries and Archives Council](#)
- [IISC - The Joint](#)

Greenstone: Open source Software for Building Digital Library Collections





Knowledge Communities: Rising to the Performance Challenges

Welcome :: Greenstone Digital Library Software - Windows Internet Explorer

http://www.greenstone.org/

File Edit View Favorites Tools Help

Search Web

greenstone.org greenstone wiki greenstone trac planet greenstone

en fr ru es

Home Download Examples Wiki Support Developers

greenstone digital library software

About Greenstone

Greenstone is a suite of software for building and distributing digital library collections. It provides a new way of organizing information and publishing it on the Internet or on CD-ROM. Greenstone is produced by the [New Zealand Digital Library Project](#) at the [University of Waikato](#), and developed and distributed in cooperation with [UNESCO](#) and the [Human Info NGO](#). It is *open-source*, [multilingual](#) software, issued under the terms of the GNU General Public License. Read the [Greenstone Factsheet](#) for more information.

The aim of the Greenstone software is to empower users, particularly in universities, libraries, and other public service institutions, to build their own digital libraries. Digital libraries are radically reforming how information is disseminated and acquired in UNESCO's partner communities and institutions in the fields of education, science and culture around the world, and particularly in developing countries. We hope that this software will encourage the effective deployment of digital libraries to share information and place it in the public domain. Further

Greenstone Blog

Planet Greenstone

Calendar

Past Workshop Map

Greenstone2.80 Released
From Category: Greenstone2

Monday 10th December, 2007
The Windows, GNU/Linux, Mac OS/X and Source distributions of Greenstone v2.80 are now available for download from our sourceforge page:
<http://sourceforge.net/projects/greenstone> or via our [download page](#).

Greenstone2.75 Released
From Category: Greenstone2

Friday 9th November, 2007

Done

Internet 100%

start 17 I... 5 Wi... 3 Ad... topic2 ... 4 Mic... 2 Mic... Desktop 7:27 PM



Lib 2008

Knowledge Communities: Rising to the
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Greenstone, Libraries and Open Access

"The aim of the software is to empower users, particularly in universities, libraries, and other public service institutions, to build their own digital libraries. Digital libraries are radically reforming how information is disseminated and acquired in UNESCO's partner communities and institutions in the fields of education, science and culture around the world, and particularly in developing countries. We hope that this software will encourage the effective deployment of digital libraries to share information and place it in the public domain."

—from www.greenstone.org

What is the Greenstone software?

- ❖ Software suite for building, maintaining, and distributing digital library collections
- ❖ Comprehensive, open-source
- ❖ Developed by New Zealand Digital Library Project at the University of Waikato
- ❖ Distribution and promotion partners:
 - ❖ UNESCO
 - ❖ Human Info NGO, Belgium
 - ❖ NCSI, Bangalore; UCT, Cape Town; Dakar, Senegal; Almaty, Kazakhstan; ...
 - ❖ You!



Humanity Development Library for sustainable development and basic human needs

- ❖ 160,000 pages
- ❖ 30,000 images
- ❖ 800 books
- ❖ 430 magazines
- ❖ 340 kg
- ❖ US\$20,000
- ❖ CD-ROM
- ❖ US\$1
- ❖ Fully searchable
- ❖ Win3.1x upward
- ❖ Stand-alone + intranet server
- ❖ Web browser user interface

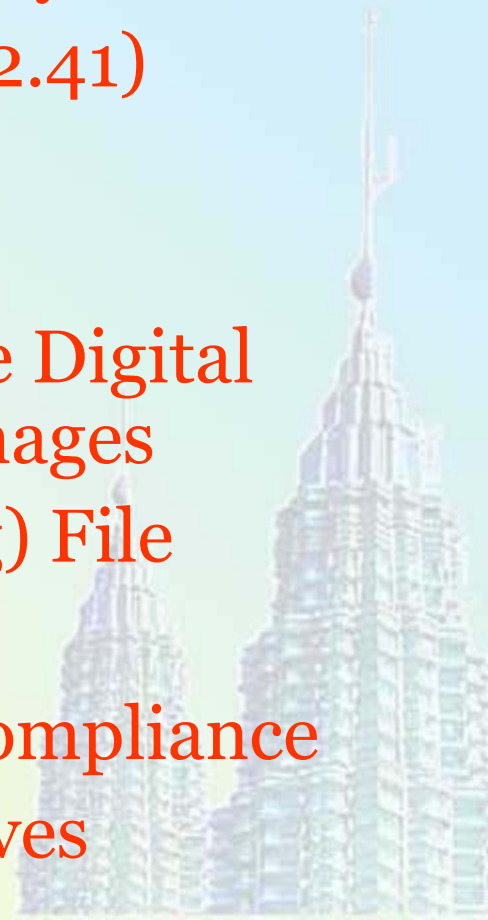
Global Help Project, Antwerp (+ UN agencies)

Features of Greenstone

- Open Source Philosophy
- Interfacing & Content Delivery via Web
- Multi S/W Platform
- Multi Lingual Support
- Multi Formats
- Structured Metadata in XML using DC
- Metadata Extraction
- Searching & Browsing
- Plug-ins for Documents
- Full-text mirroring
- Text Level Penetration
- Data Compression
- Password protection
- Administrative Functions
- Concurrent & Dynamic Content Development
- Uniform Presentation
- Publishing on CDROMs
- International Presence

Greenstone Features contd...

- Easy Installation
- Easy Maintenance
- Content Development (3 alternate ways)
- Predominantly GLI now - since (V. 2.41)
- Hierarchy Structure
- Interface Customization
 - Front Page Design, Header for the Digital Library, Collection Icon, Cover Images
- Collection Configuration (Collect.cfg) File
- Scalability, Flexibility
- Interoperability (Crosswalk), OAI Compliance
- Lifeline : Listserv / E-Group / Archives



UNESCO: Distributing Greenstone DL software

Sustainable development

*"Give a man a fish, feed him for a day
Teach a man to fish, feed him for life"*

Greenstone software on CD-ROM

- ❖ GNU licensed
- ❖ Fully documented ... in English/French/Spanish/Russian
- ❖ Language interfaces: Arabic Chinese Czech ... Thai Turkish
- ❖ Unix/Windows/Mac OS-X
- ❖ Trivial to install
- ❖ GUI interface for gathering, enriching, building ...
- ❖ Serve collections on Web or write them to CD-ROM
- ❖ Document formats: HTML, Word, PDF, PS, plain text, e-mail
- ❖ Metadata formats: XML, DC, OAI, MARC, ...

download from <http://greenstone.org>



What we wanted

- ❖ "Collections" of digital material
- ❖ Individualized, depending on metadata etc
- ❖ Up to several GB of text ...
- ❖ ... + associated images, movies, whatever
- ❖ Fully searchable
- ❖ Served on WWW, or published on CD-ROM
- ❖ Multi-platform (Unix + all Windows + Mac)
- ❖ Multi-format documents *and* metadata
- ❖ Multi-lingual: documents *and* interfaces
- ❖ Multimedia
- ❖ Metadata: standard *and* non-standard



Greenstone DL Software

- Access
- Accessible via any Web browser
 - Server runs on Windows and Unix
 - Collections can be published on CD-ROM

- Searching/
browsing
- Full-text and fielded search
 - Flexible browsing facilities
 - Metadata-based (Dublin Core)
 - Collection-specific
 - Hierarchical phrase browsing supported
 - Creates all access structures automatically

- Extensible
- Plugins — new document, metadata formats
 - Classifiers — new metadata browsers

- Multilingual
- Documents *and* interfaces
 - Chinese, Arabic, Maori, Russian etc (+ European)
 - Multimedia: video, audio collections exist

The power of open source: Greenstone uses ...

- ❖ **Ghostscript** **Interpreter for Adobe Postscript documents (Postscript plugin)**
- ❖ **Kea** **Keyphrase extraction program (to generate metadata)**
- ❖ **pdftohtml** **Converter for PDF documents (PDF plugin)**
- ❖ **rtftohtml** **Converter for RTF documents (RTF plugin)**
- ❖ **TextCat** **Detects languages and document encodings**
- ❖ **wvWare** **Converter for Word documents (Word plugin)**
- ❖ **Xlhtml** **Converter for Excel/Powerpoint documents (plugins)**
- ❖ **XML::Parser** **Parses XML documents, used to read and write Greenstone's internal XML document format**

and ...

- ❖ **MG** **Creates compressed full-text indexes and performs searches**
 - ❖ **GDBM** **Database used for metadata etc**
 - ❖ **wget** **Downloading pages from the Web when creating collections**
 - ❖ **YAZ** **Client and server implementation of Z39.50**
 - ❖ **Stemmer** **English language stemmer**
-
- ❖ **GCC** **C/C++ compiler**
 - ❖ **CVS** **Version control system**
 - ❖ **Perl** **Used for plugins etc**
 - ❖ **Apache** **Web server used by many Greenstone installations**
 - ❖ **OAI-PMH** **OAI Performance**

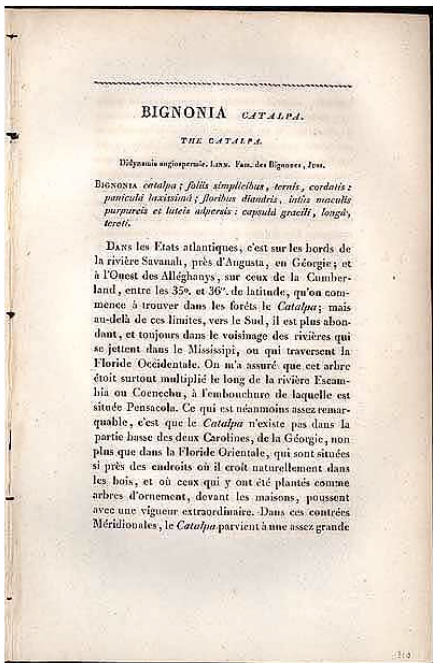
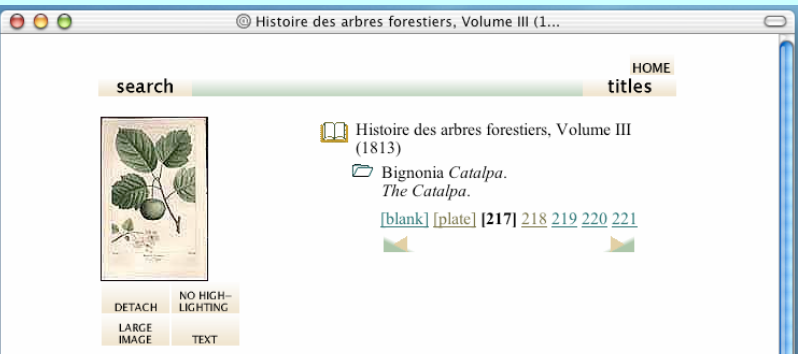
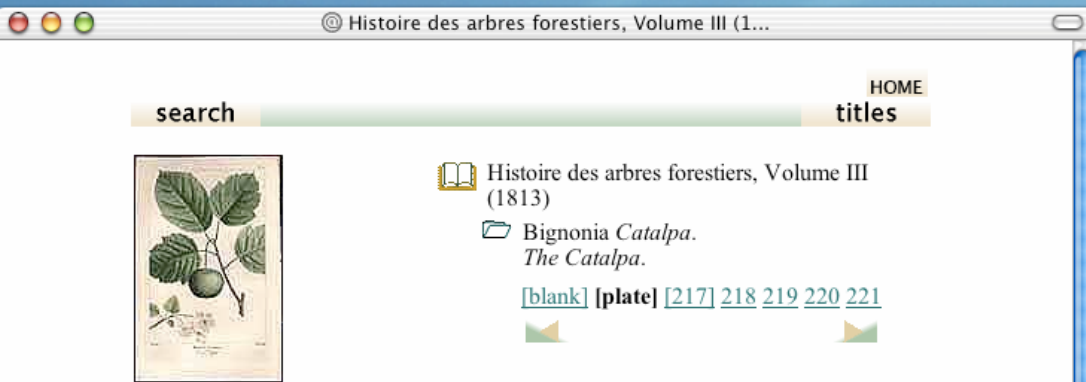
Example Greenstone collections

- Rapid growth in use
- International – Many Countries...China, Germany, India, UK, USA, Russia, Malaysia, Singapore... – Almost all countries/Continents
- Increasing activity on Greenstone mailing list
- Promotion by UNESCO – “deployment of DL’s for sharing public domain information”
- Wide variety of DL collections have been developed in several languages
 - historical, educational, cultural, and research



- **New York Botanical Garden**

- Rare 19th century works on American trees
- Gorgeous full-color plates



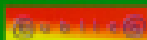
French

UNESCO, Paris

SAHEL point DOC ANTHOLOGIE du DÉVELOPPEMENT au SAHEL

Agriculture, pêche, élevage
Environnement
Développement social et humain
Coopérations, intégrations, marchés
Culture, information, communication

Documents fournis par : AFDTA, Banque Mondiale,
Centre Senghor, Club du Sahel, CTA, FAO, GRET,
Institut du Sahel, Editions Maitronneuse et Larose, PNUD.



SAHEL point DOC

ANTHOLOGIE du DÉVELOPPEMENT au SAHEL

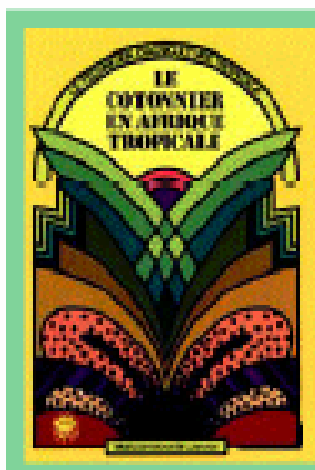
AIDE PRÉFÉRENCES

rechercher | sujets | titres a-z | organisations | comment

Rechercher les: contenant mot(s)

Envoyer

UNESCO - SAHEL point DOC - CD-ROM 1.0



Ce CD-Rom SAHEL point DOC, première publication de la collection PUBLICA de l'UNESCO, met à la disposition du public, un choix de documents d'informations utiles et disponibles en langue française sur le développement du Sahel. Plus de 12.000 pages de documents y sont réparties en cinq thèmes que vous pourrez découvrir sous le bouton "sujets".

Comment trouver les informations ?

AIDE *Four de aide à tout moment, activez le bouton "Aide".*

Il y a cinq manières d'accéder aux informations contenues dans ce CD-ROM :

- rechercher des mots particuliers ou une phrase
- accéder aux publications par sujet
- accéder aux publications par titre dans l'ordre alphabétique
- accéder aux publications par organisation
- accéder aux publications par le bouton

Cliquez une couverture
... pour accéder au livre



Le Projet de
la Collection PUBLICA
de l'UNESCO

Collections: on the Web

nzdl.org

(demo, not
service)

Greenstone Digital Library - Netscape

File Edit View Go Window Help

http://nzdl.org/

THE NEW ZEALAND DIGITAL LIBRARY

The University of Waikato

select a collection

- arabic collection
- project gutenberg
- virtual disaster library
- BBC ONLINE
- the hci bibliography
- the computists' weekly
- Collection on Critical Global Issues
- humanity development library
- Bibliothèque pour le Développement
- indigenous
- cabal

http://www.nzdl.org/

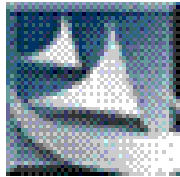
Greenstone & Associated Softwares

- **Greenstone 2.80** (<http://www.greenstone.org>)
- **Java Runtime Environment (JRE)** (<http://java.sun.com>)
- **ImageMagick** (<http://www.imagemagick.org>)
- **Ghostscript** (<http://www.cs.wis.edu/~ghost/>)
- **Module for CD-ROM Publishing** (<http://www.greenstone.org>)
- **Additional Language Pack** (<http://www.greenstone.org>)



Installing Greenstone

Softwares/Files Required



gsdl-2.80-win32



jre-1_5_0_05-windows-i586-p
Setup Launcher
Sun Microsystems, Inc.



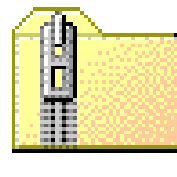
ImageMagick-6.3.6-4-Q16-win...
ImageMagick 6.3.6 Q16 Setup
ImageMagick Studio LLC



gs860w32



glp-2.62-win32



gsdl-2.70-export
19,497 KB

Sequence of Installation

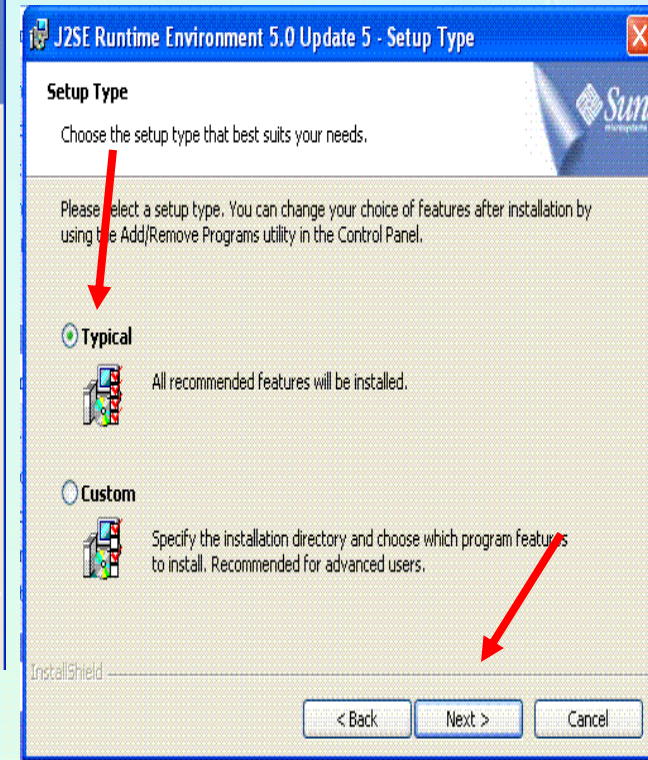
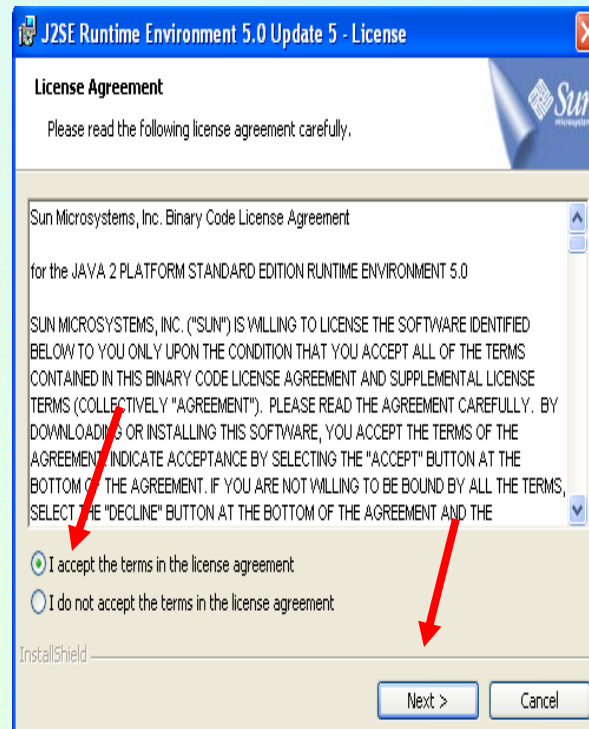
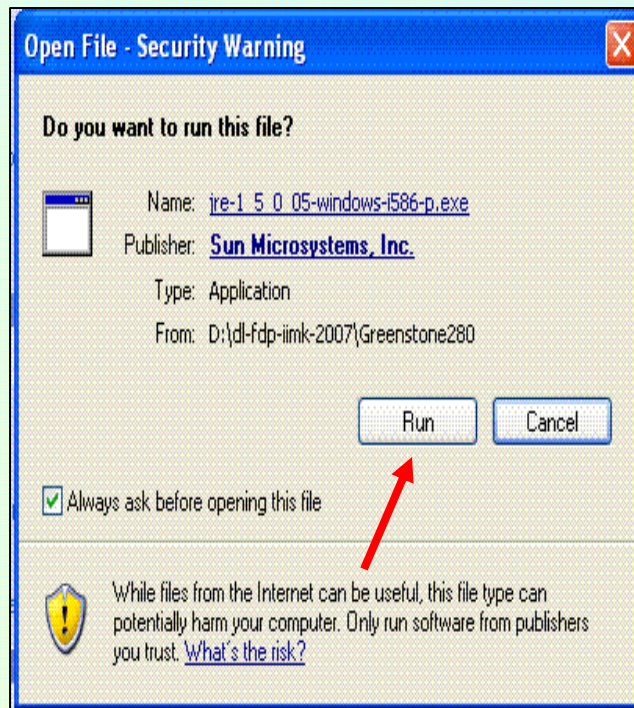
1. **Java Runtime Environment (JRE)**
(<http://java.sun.com>)
2. **ImageMagick** (<http://www.imagemagick.org>)
3. **Ghostscript** (<http://www.cs.wis.edu/~ghost/>)
4. **Greenstone 2.80**
(<http://www.greenstone.org>)
5. **Module for CD-ROM Publishing**
(<http://www.greenstone.org>)
6. **Additional Language Pack**
(<http://www.greenstone.org>)



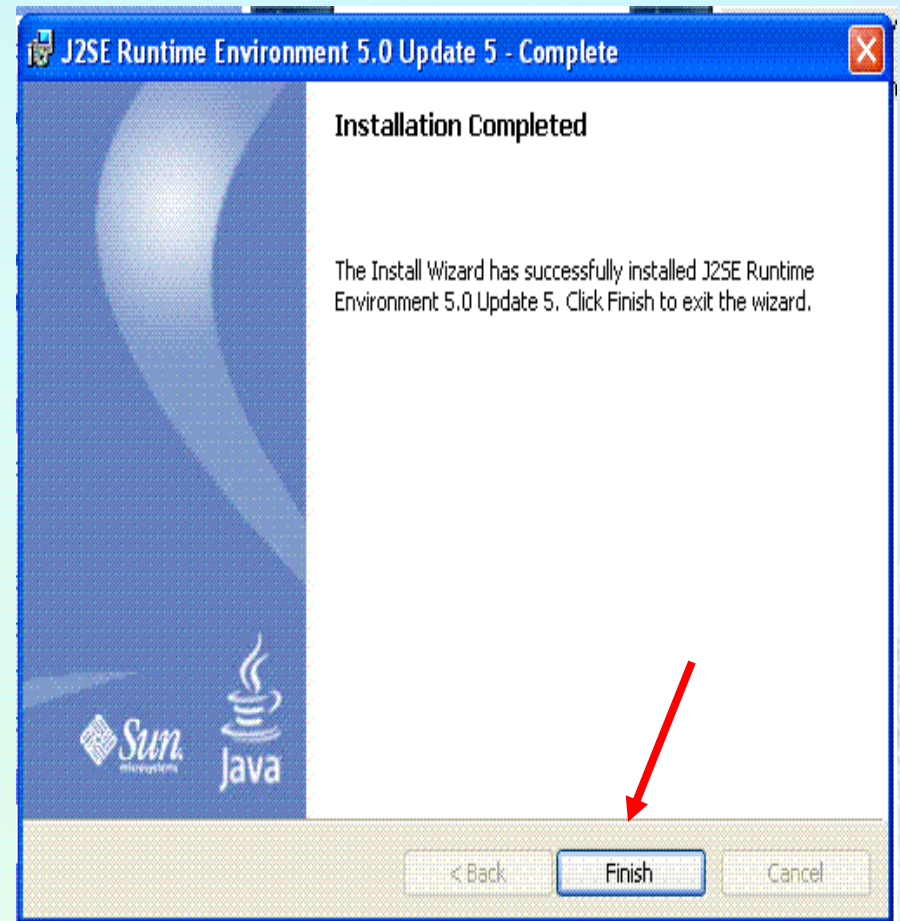
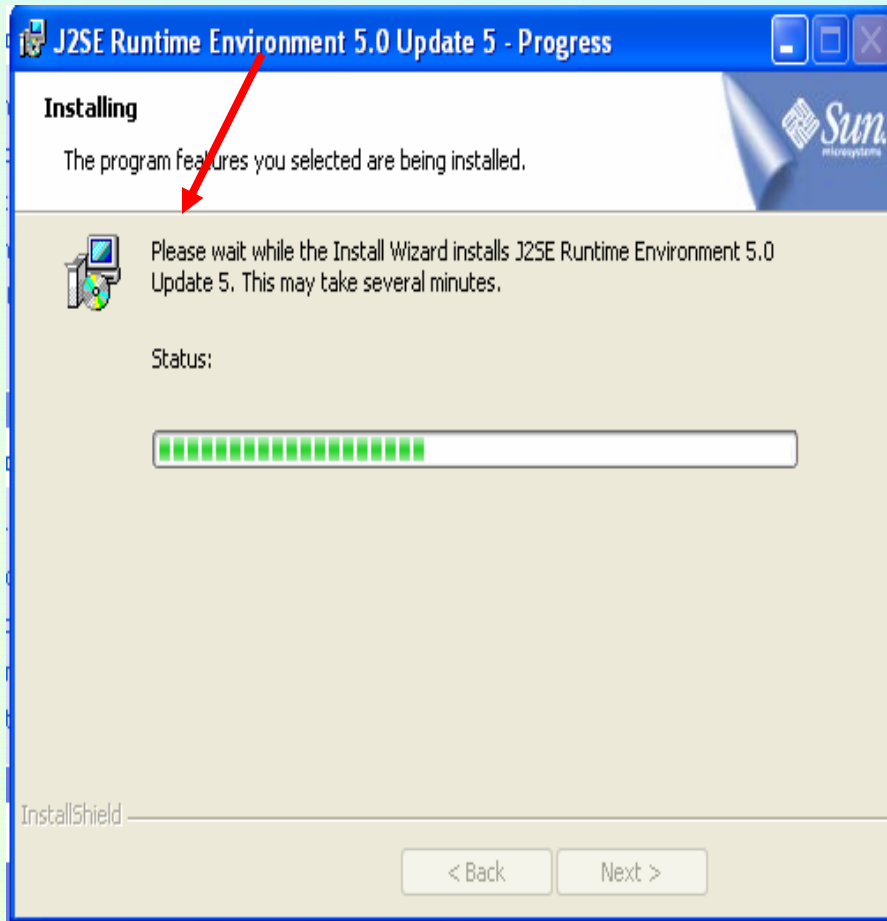
Installing...Java Runtime Environment (JRE)

Step 1. Check and Remove any Java Presence

Step 2. Locate the jre-1_5_0_05-windows-i586-p and Click to Install

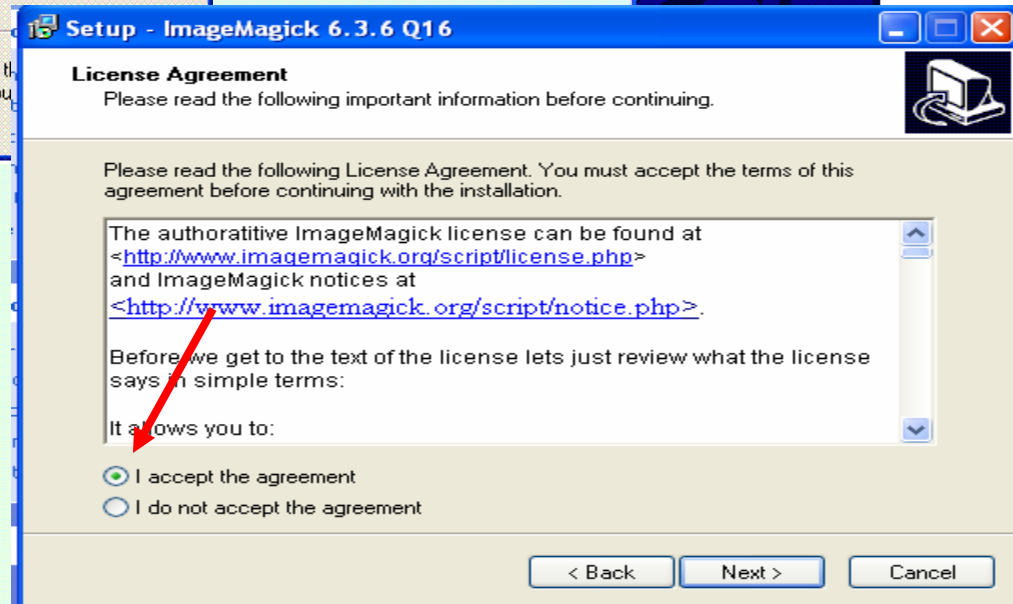
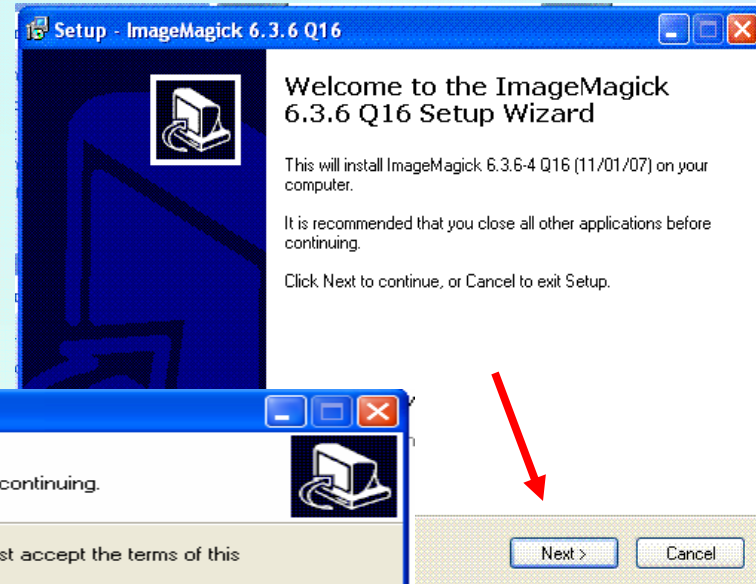
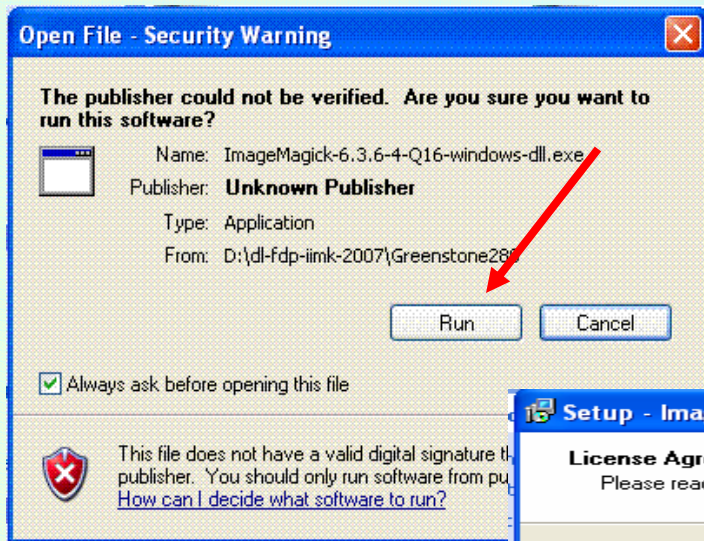


Installing...Java Runtime Environment (JRE)

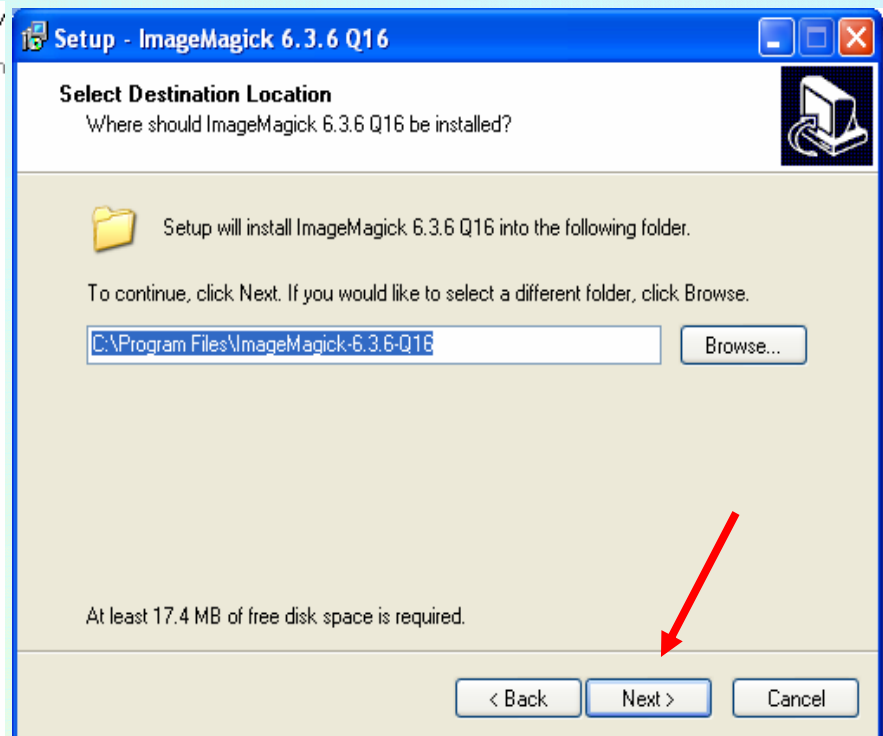
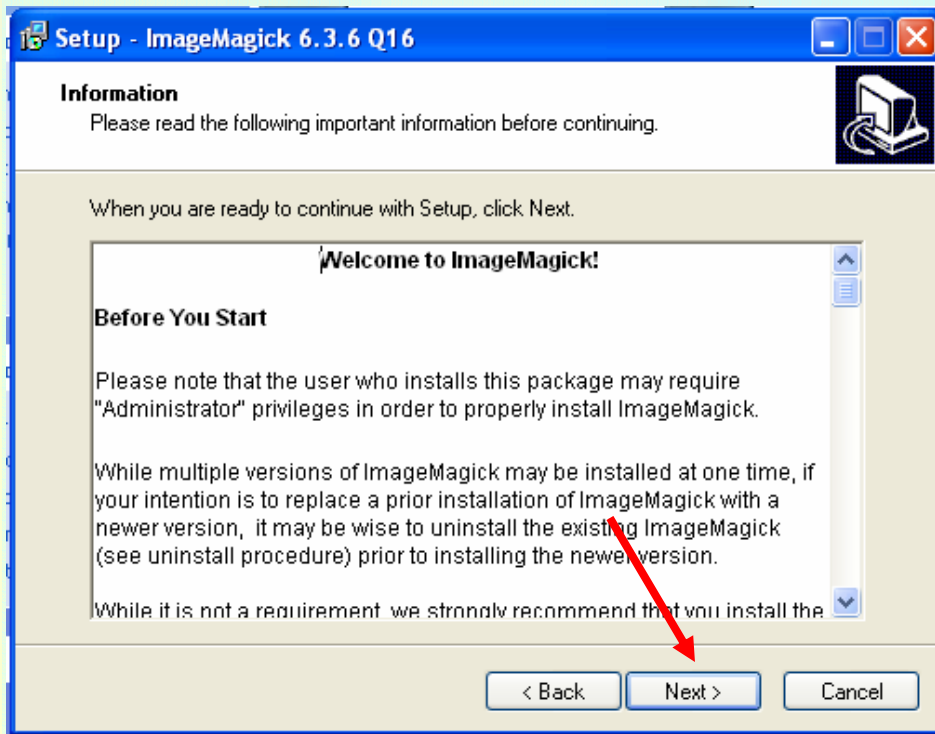


Installing... ImageMagick

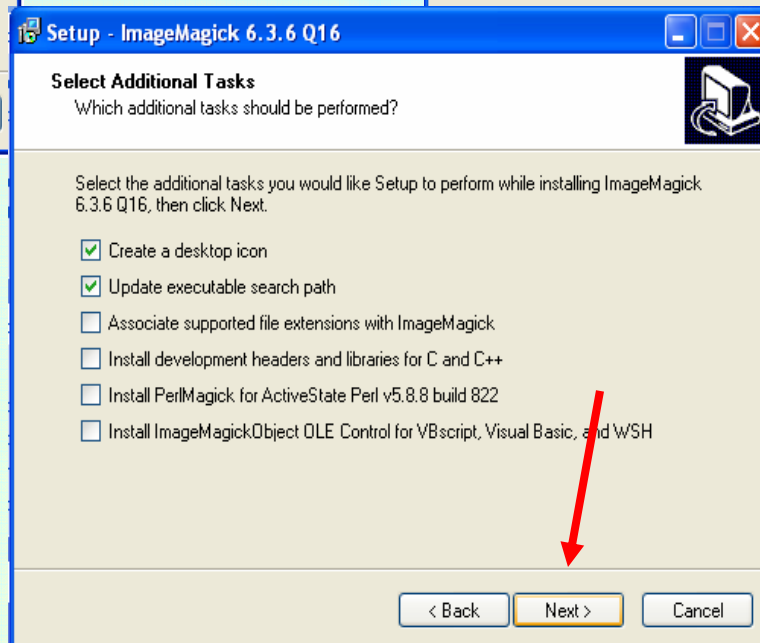
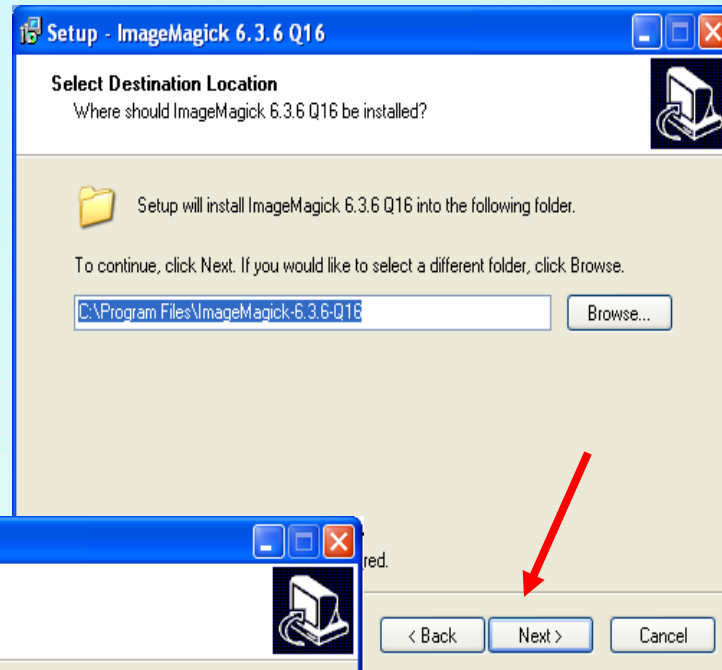
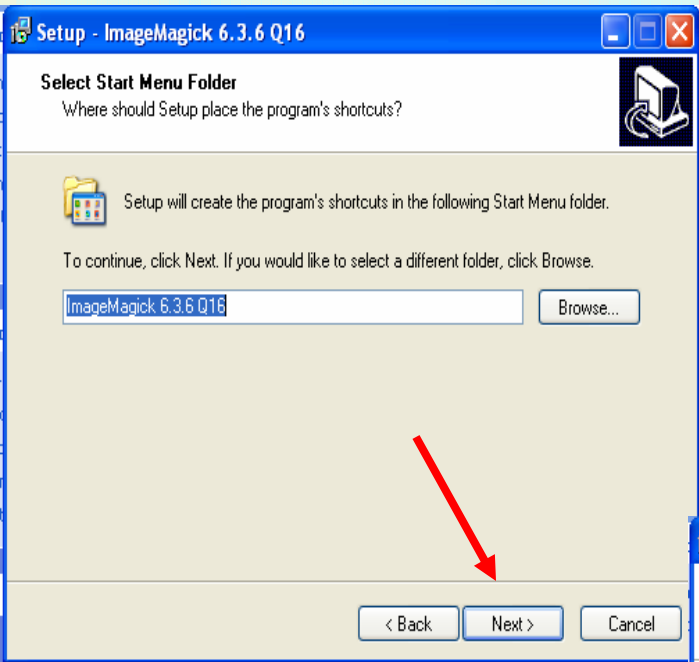
Step 1. Locate the File ImageMagick-6.3.6-4-Q16-windows-dll and Click to Install



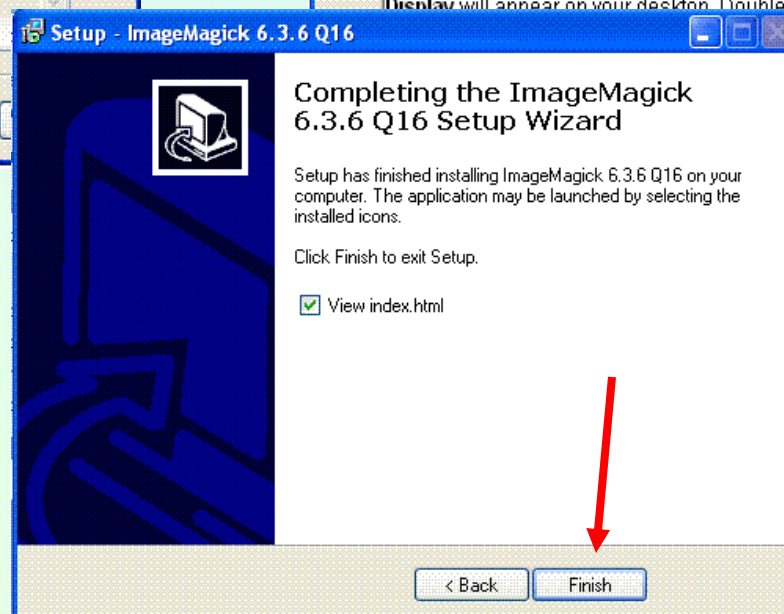
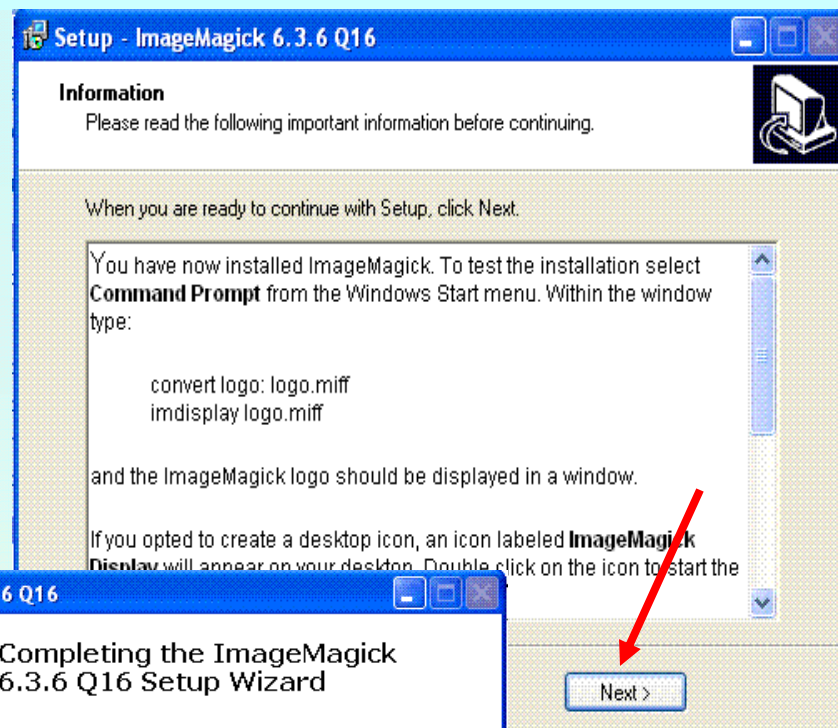
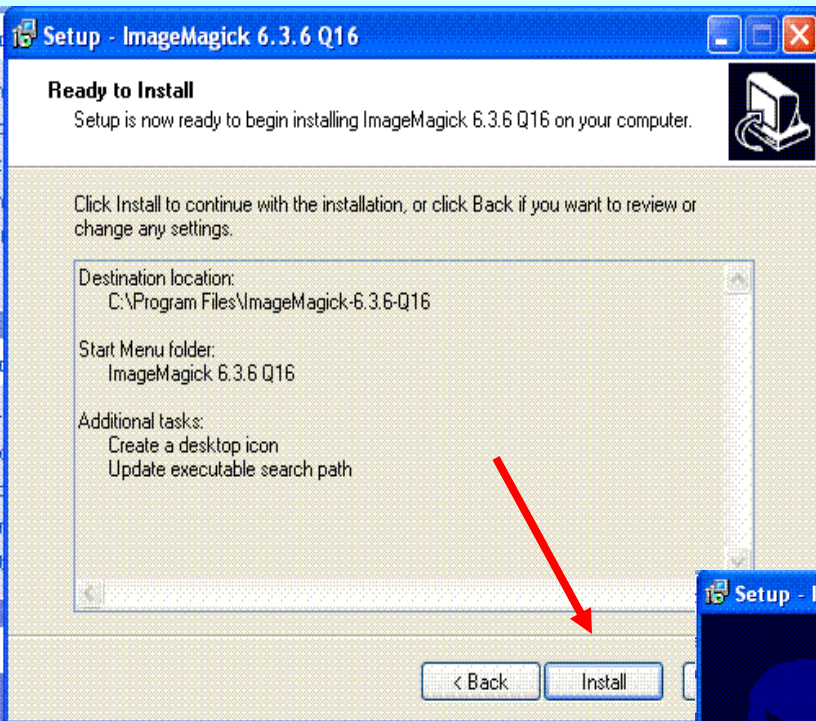
Installing... ImageMagick...



Installing... ImageMagick...

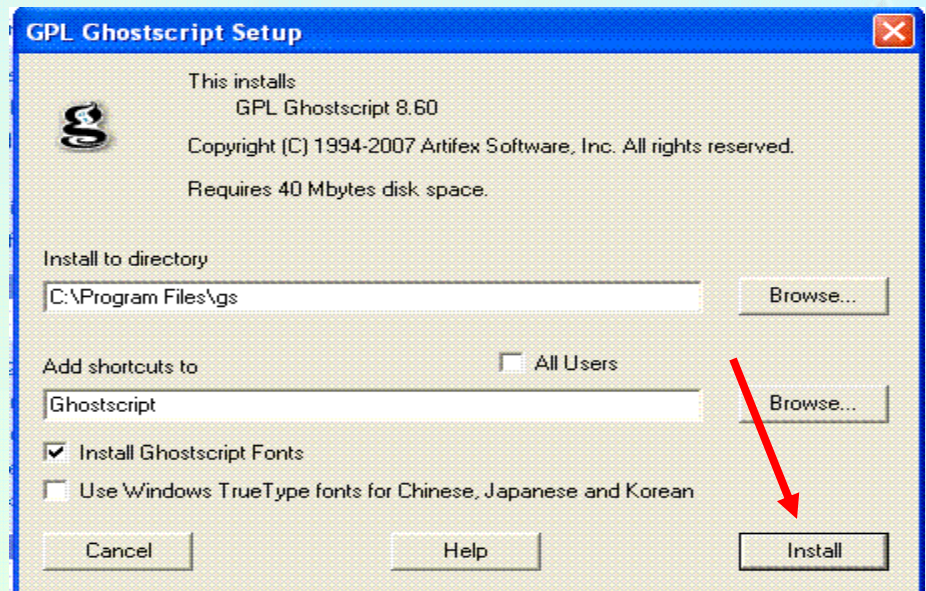
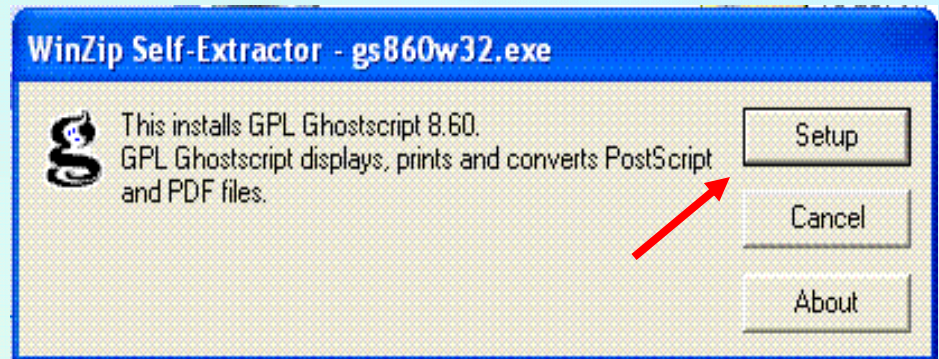
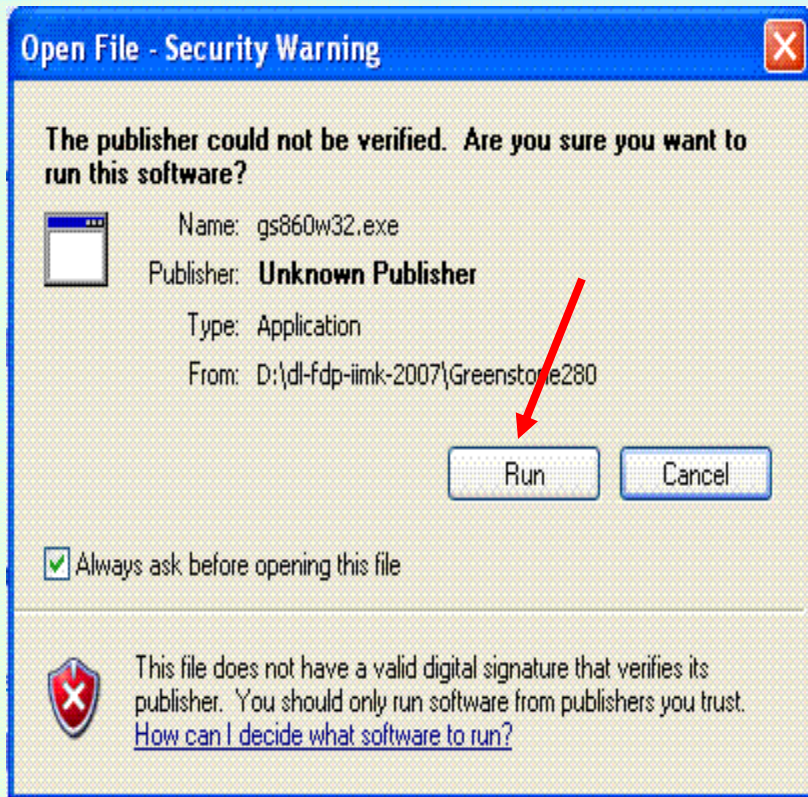


Installing... ImageMagick...



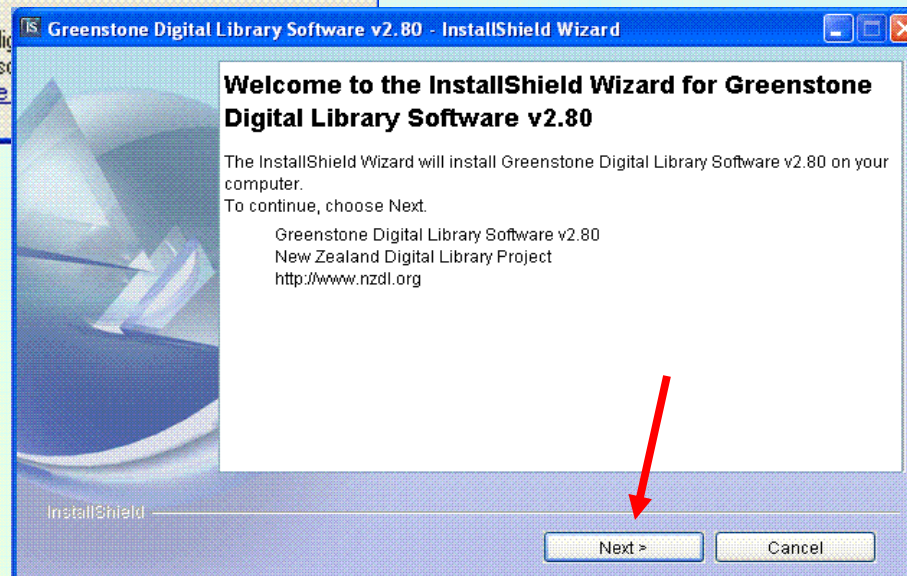
Installing... Ghostscript...

Step 1. Locate the File **gs860w32** and Click to Install

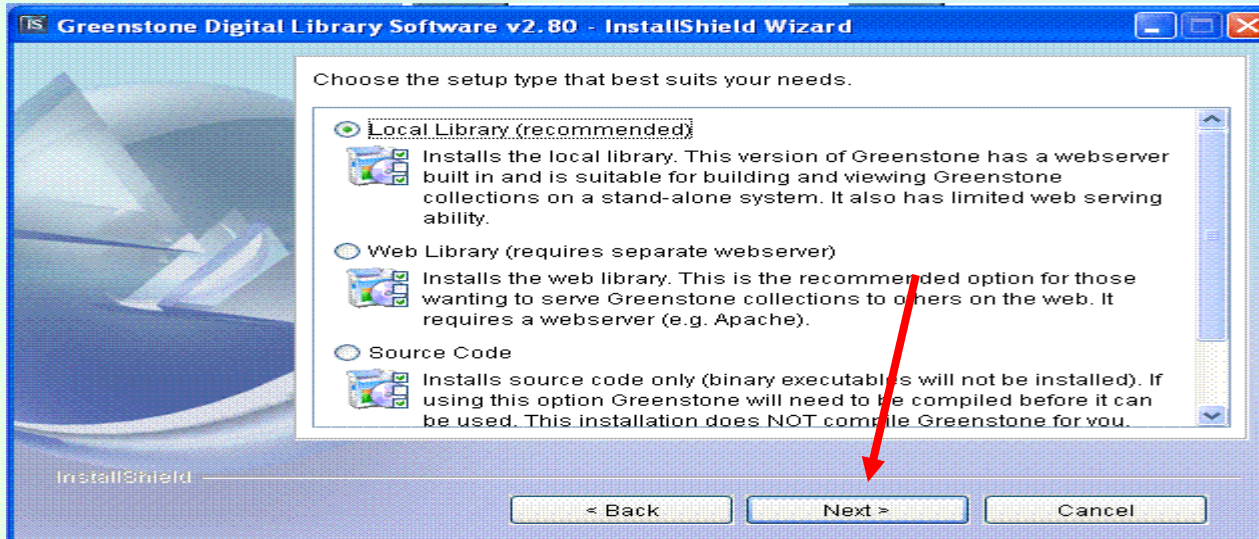
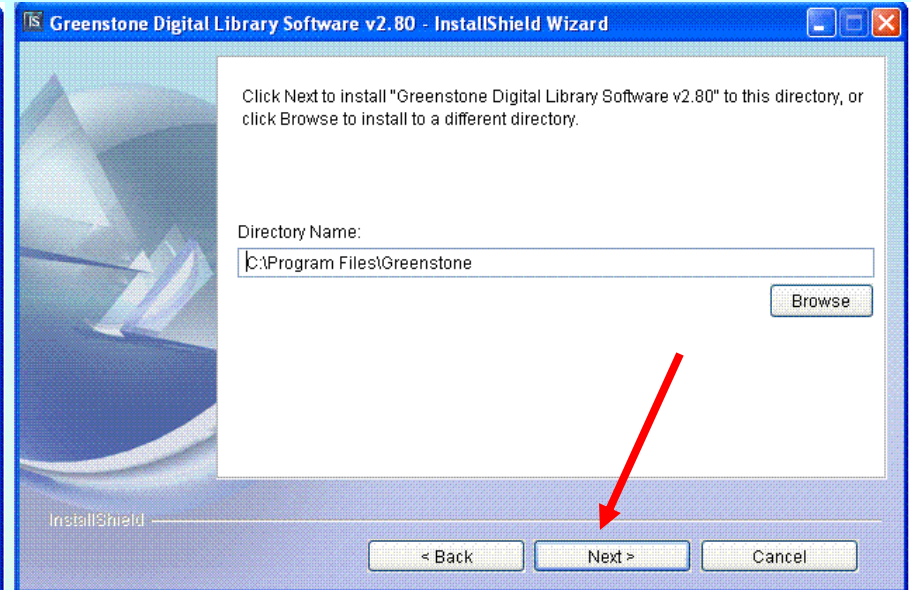
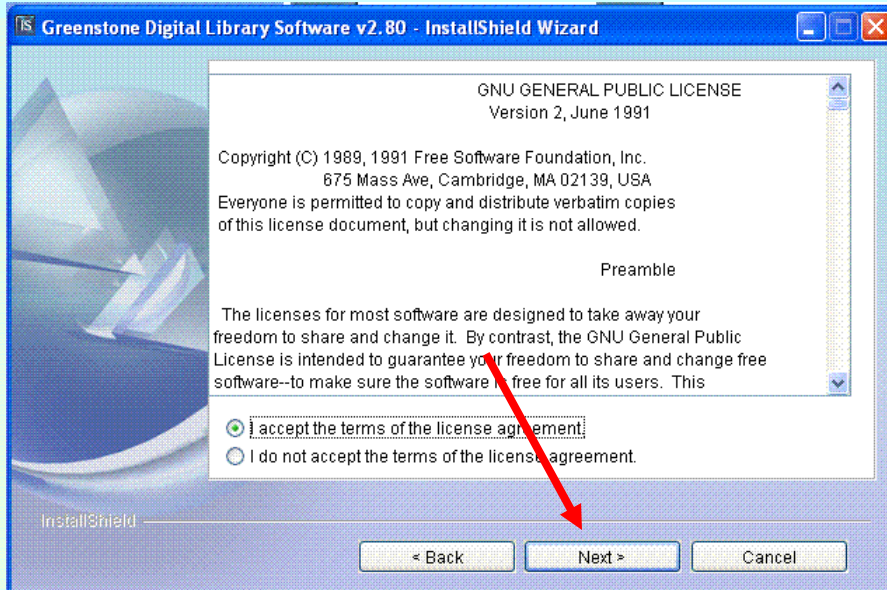


Installing... Greenstone

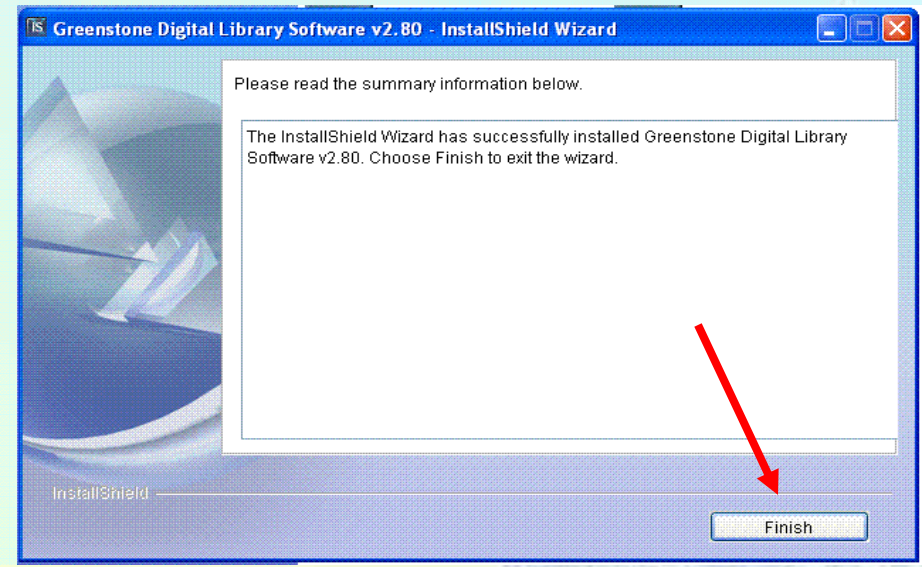
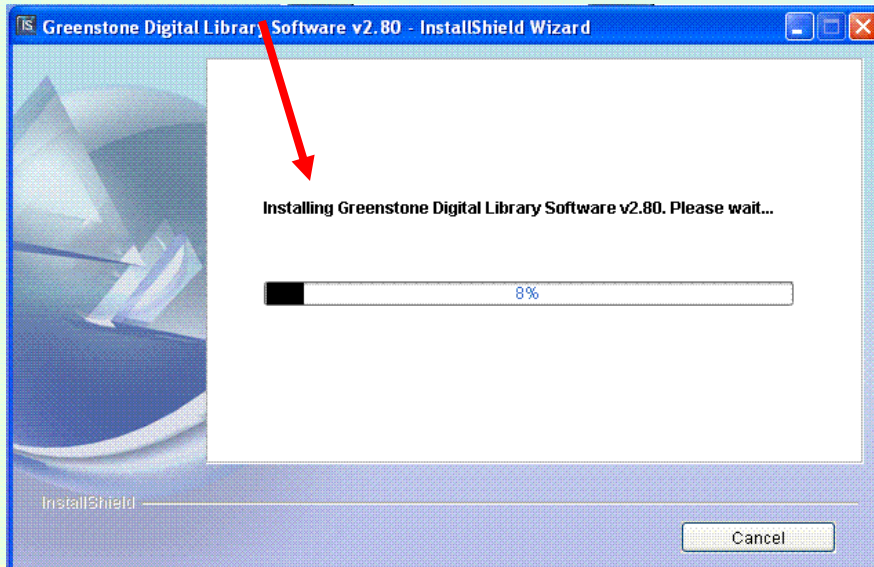
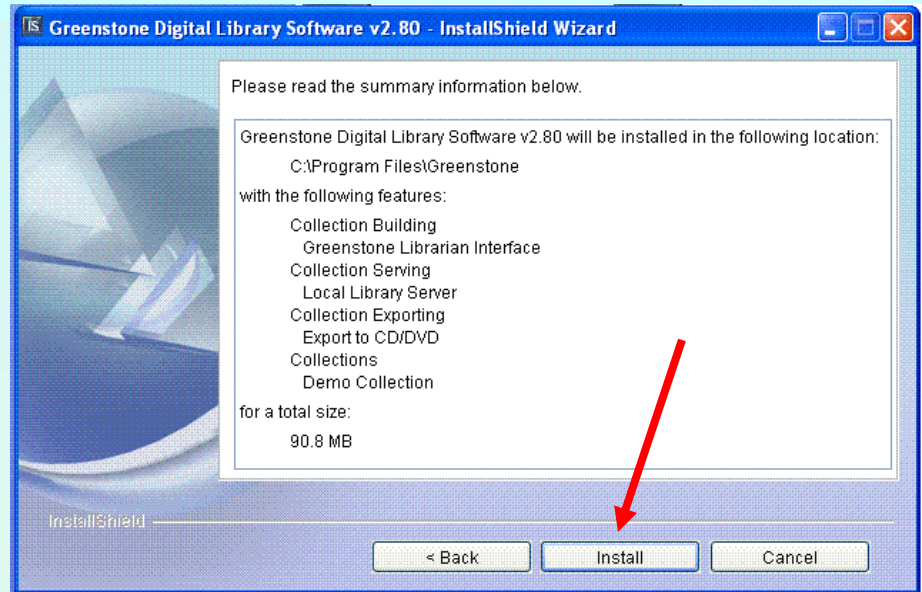
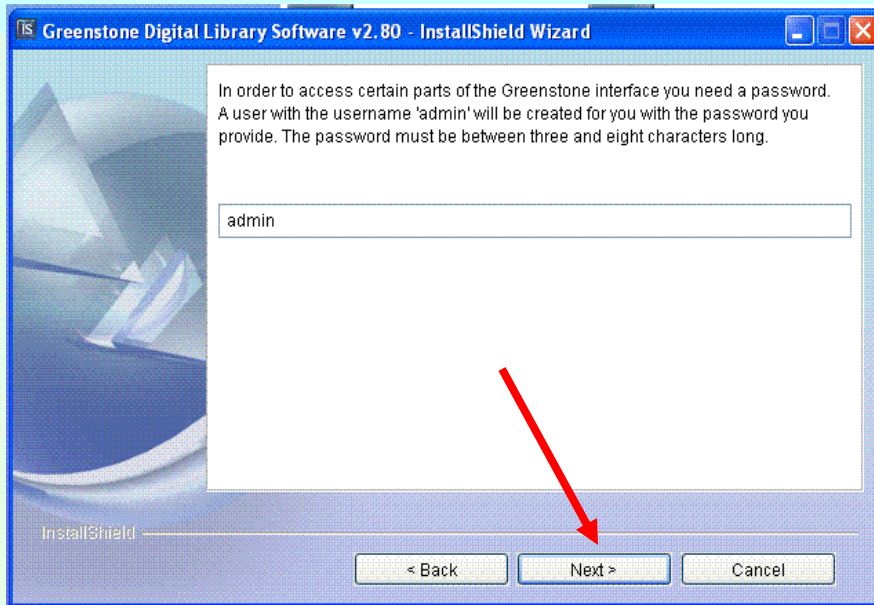
Step 1. Locate the File **gsdl-2.80-win32** and Click to Install



Installing... Greenstone...



Installing... Greenstone...



Greenstone's Interfaces

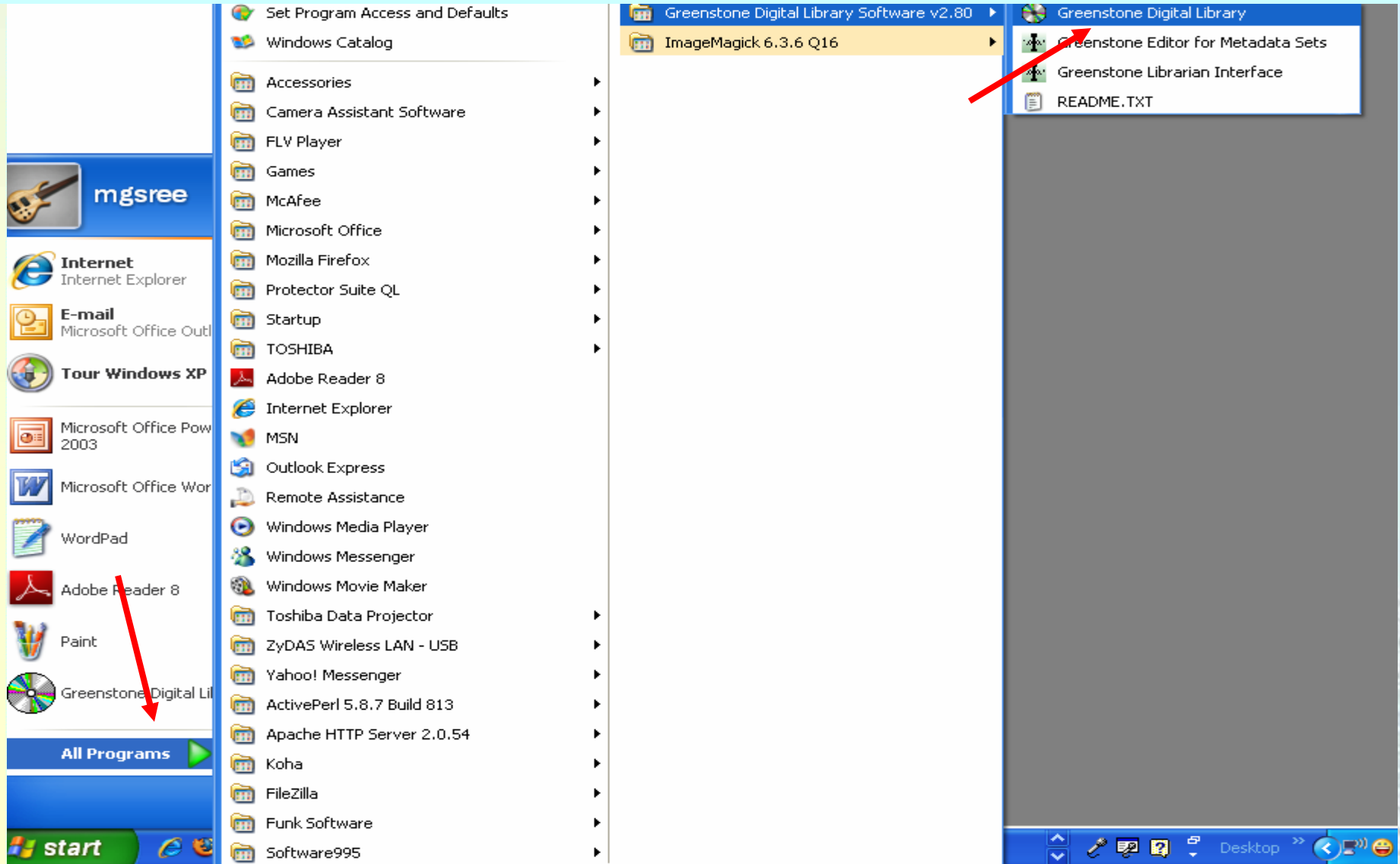
Digital Library (User + Librarian)

The screenshot shows the Greenstone Digital Library Software user interface in Internet Explorer. The browser title is "Greenstone Digital Library Software - Windows Internet Explorer". The address bar shows the URL "http://192.168.1.4:1027/gsdli?nuq=249373187". The page features a green and white decorative border on the left. The main content area is titled "greenstone digital library software" and includes a "select a collection" section with links for "Audios", "Collection1", "Image-Collection", "isis-to-greenstone", "multi-format collection", and "my-references". A "Greenstone demo" link is highlighted with a blue box. Below this, there are four informational boxes: "The Librarian Interface" (helps create/modify/delete collections), "Administration Page" (allows adding users and technical info), "About Greenstone" (tells about the software and NZDL project), and "Greenstone Documentation" (Greenstone manuals). A paragraph at the bottom describes Greenstone as open-source software developed by the University of Waikato in cooperation with UNESCO and the Human Info NGO. The Windows taskbar at the bottom shows the time as 8:16 PM.

Librarian Interface (GLI)

The screenshot shows the Greenstone Librarian Interface (GLI) software. The title bar reads "Greenstone Librarian Interface 2.80 Mode: Librarian Collection: Image-Collection (imagecol)". The interface has a menu bar with "File" and "Edit", and a toolbar with buttons for "Download", "Gather", "Enrich", "Design", "Create", and "Format". The main workspace is divided into two panes: "Workspace" on the left, showing a tree view of "Documents in Greenstone Collections" with sub-items "Local Filespace", "Home Folder (mgsree)", and "Downloaded Files"; and "Collection" on the right, showing a tree view of "images". At the bottom, there are two "Show Files" dropdown menus, both set to "All Files". A status bar at the bottom indicates "No action requested" with a "Stop" button. The Windows taskbar at the bottom shows the time as 8:27 PM.

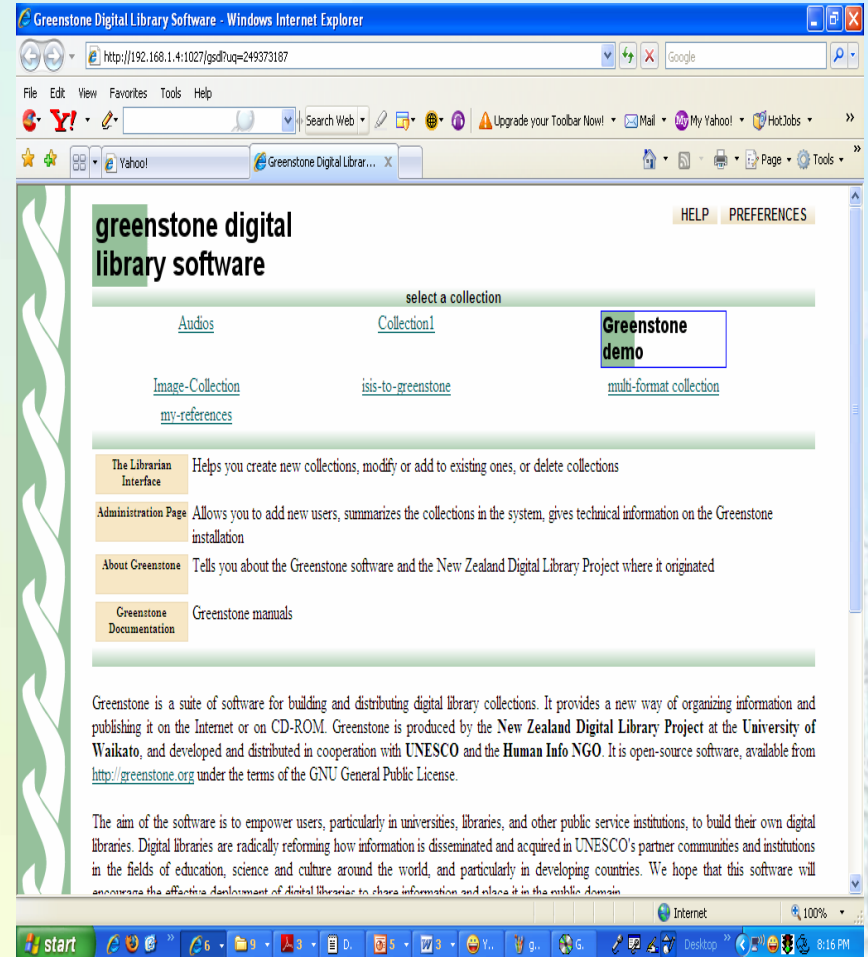
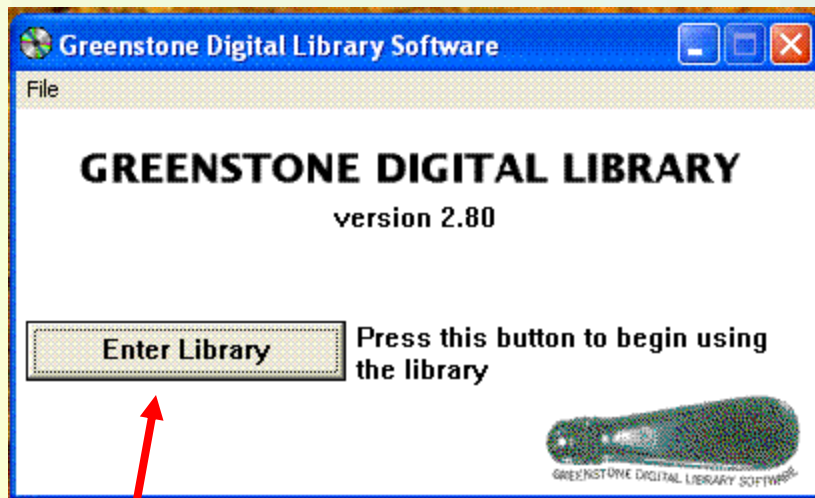
Opening Greenstone on Browser



Opening Greenstone on Browser

Digital Library Server

Greenstone Digital Library



Opening Greenstone on Browser

Greenstone Digital Library

Greenstone Digital Library Software - Windows Internet Explorer

http://192.168.1.4:1027/gsd?uq=249373187

File Edit View Favorites Tools Help

Search Web

Upgrade your Toolbar Now!

Mail My My Yahoo! HotJobs

Yahoo! Greenstone Digital Librar...

HELP PREFERENCES

greenstone digital library software

Collections

select a collection

[Audios](#) [Collection1](#) **Greenstone demo** [multi-format collection](#)

[Image-Collection](#) [isis-to-greenstone](#)

[my-references](#)

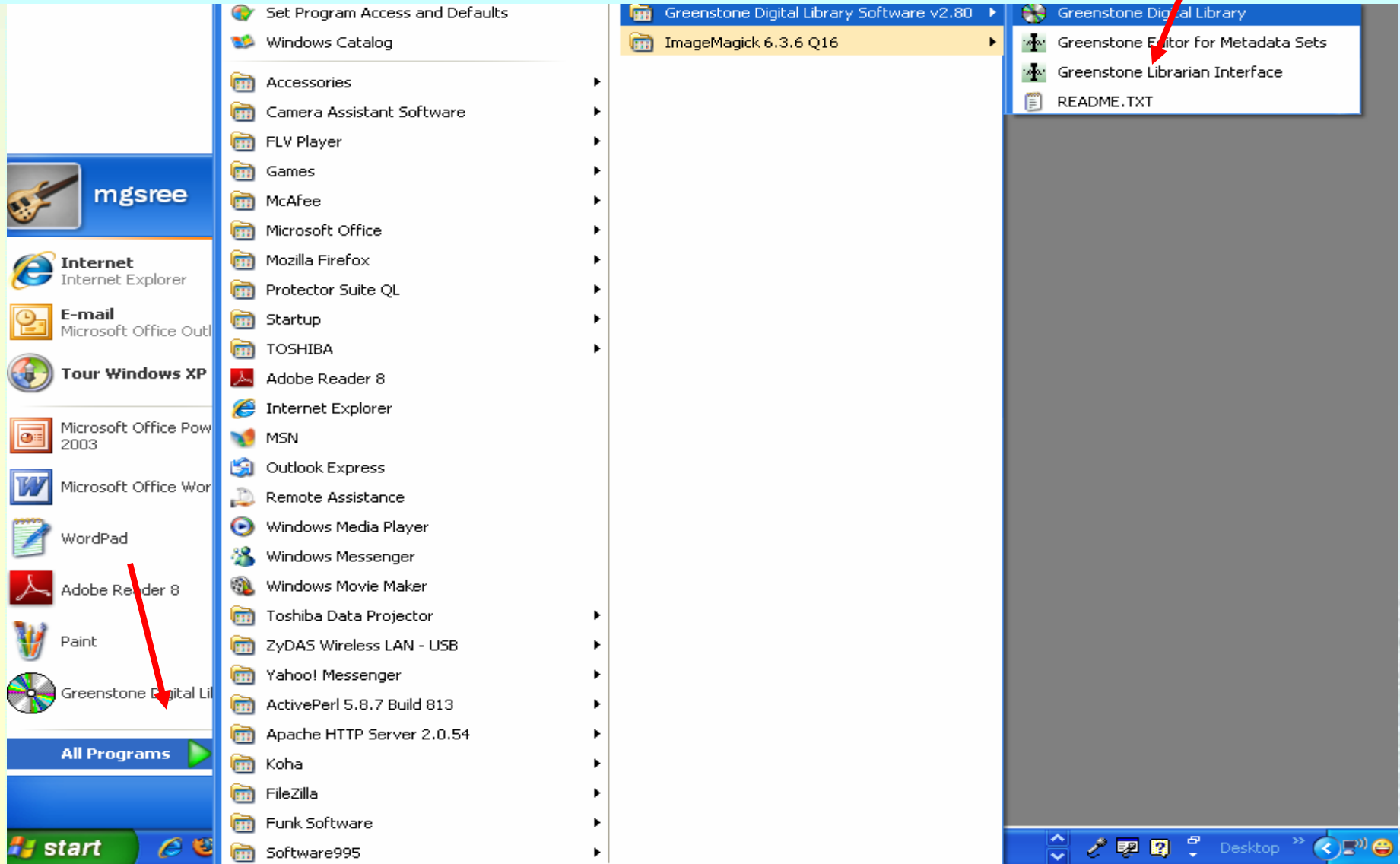
The Librarian Interface	Helps you create new collections, modify or add to existing ones, or delete collections
Administration Page	Allows you to add new users, summarizes the collections in the system, gives technical information on the Greenstone installation
About Greenstone	Tells you about the Greenstone software and the New Zealand Digital Library Project where it originated
Greenstone Documentation	Greenstone manuals

Greenstone is a suite of software for building and distributing digital library collections. It provides a new way of organizing information and publishing it on the Internet or on CD-ROM. Greenstone is produced by the **New Zealand Digital Library Project** at the **University of Waikato**, and developed and distributed in cooperation with **UNESCO** and the **Human Info NGO**. It is open-source software, available from <http://greenstone.org> under the terms of the GNU General Public License.

The aim of the software is to empower users, particularly in universities, libraries, and other public service institutions, to build their own digital libraries. Digital libraries are radically reforming how information is disseminated and acquired in UNESCO's partner communities and institutions in the fields of education, science and culture around the world, and particularly in developing countries. We hope that this software will encourage the effective deployment of digital libraries to share information and place it in the public domain.

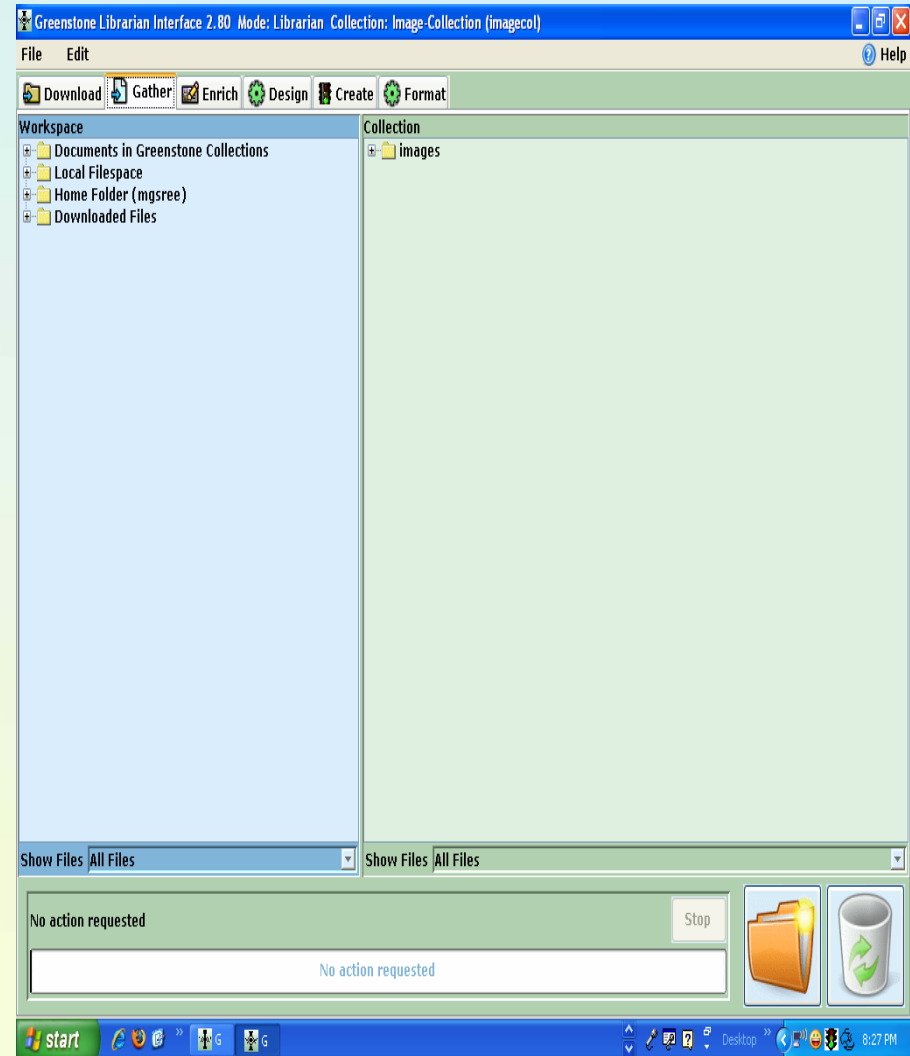
start 6 9 3 D. 5 3 Y.. g.. G. Desktop 8:16 PM

Opening the GLI



Opening the GLI

```
Greenstone Librarian Interface  
Greenstone Librarian Interface (GLI)  
Copyright (C) 2006, New Zealand Digital Library Project, University Of Waikato  
GLI comes with ABSOLUTELY NO WARRANTY; for details see LICENSE.txt  
This is free software, and you are welcome to redistribute it  
  
Checking GSDL: ..  
Checking Perl: C:\Program Files\Greenstone\bin\windows\perl\bin  
Checking Java: C:\WINDOWS\system32  
  
Running the Greenstone Librarian Interface...  
Version: 2.80  
  
Updating user config.xml from version 2.75 to version 2.80...  
-
```



GLI



Greenstone Librarian Interface 2.80 Mode: Librarian Collection: Image-Collection (imagecol)

File Edit Help

Download Gather Enrich Design Create Format

Workspace

- Documents in Greenstone Collections
- Local Filespace
- Home Folder (mgsree)
- Downloaded Files

Collection

- images

Show Files All Files Show Files All Files

No action requested Stop

No action requested

start [Taskbar icons] Desktop 8:27 PM

GLI Functions

- Establish new collection (or work on old)
- Select files to include in collection (Gather)
- Enrich files with metadata (Enrich)
- Select Plugins, Indexes, Classifiers (Design)
- Build Collection (Create)
- Format and Control Display (Format)
- Customize Appearance
- Preview Collection



GLI

- ❖ Building collections
- ❖ Interactive Java program
- ❖ Runs on anything
- ❖ Build a collection on the computer you are on
- ❖ ... plus new applet version
- ❖ Includes metadata editor



- ❖ Caveat: cannot deal with such huge collections as Greenstone can (particularly of metadata)

- **Invoke GLI: build a small collection of HTML files**
- **Gather**
- **Create**
- **Look at extracted metadata**
- **Set up shortcut in the Librarian interface**

Collection Building...

- Greenstone used to have three modes of collection building, viz., **Command Line**, **Web Interface** and the **GLI** (Greenstone Librarian Interface)
- Progressing with version 2.4x., the GLI got strengthened as well as popularized
- Web Interface mode has been withdrawn temporarily.
- The GLI based collection building is quite easy and simple a method.
- Collection developers can activate the GLI software and use the ‘**Gather**’, ‘**Enrich**’, ‘**Design**’, ‘**Format**’ and ‘**Create**’ panel for making collection

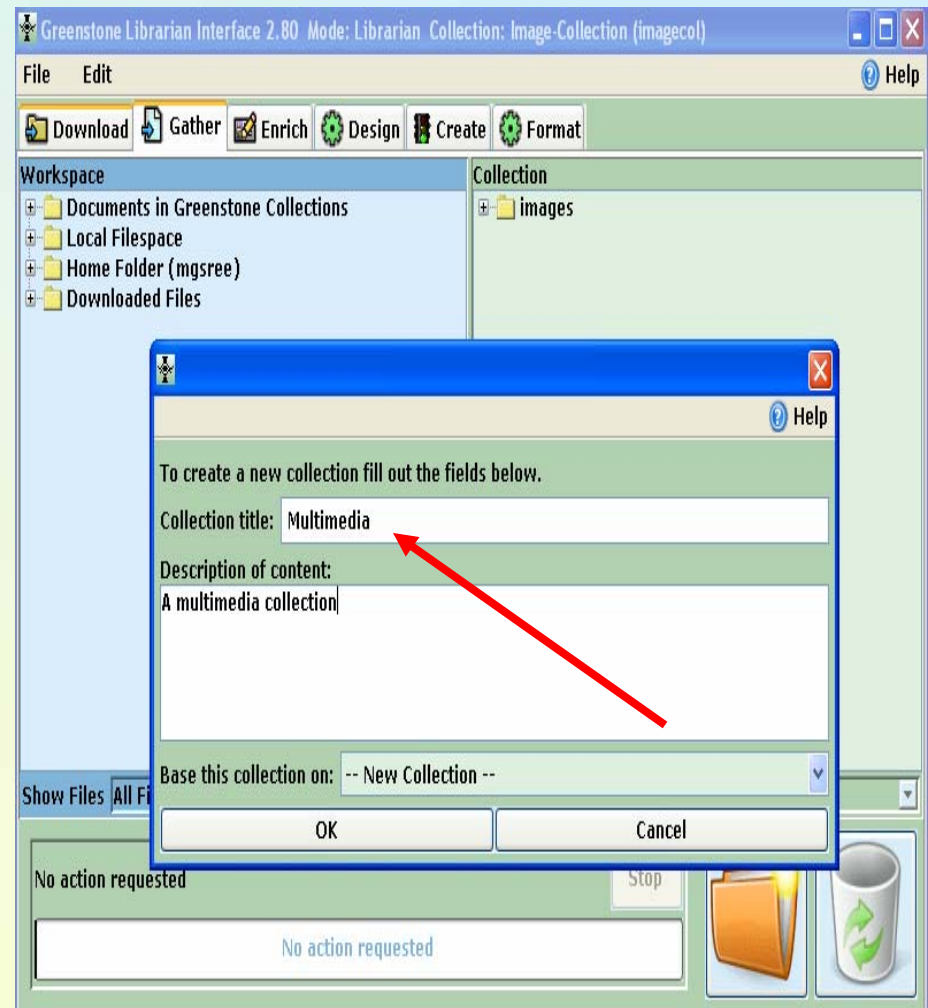
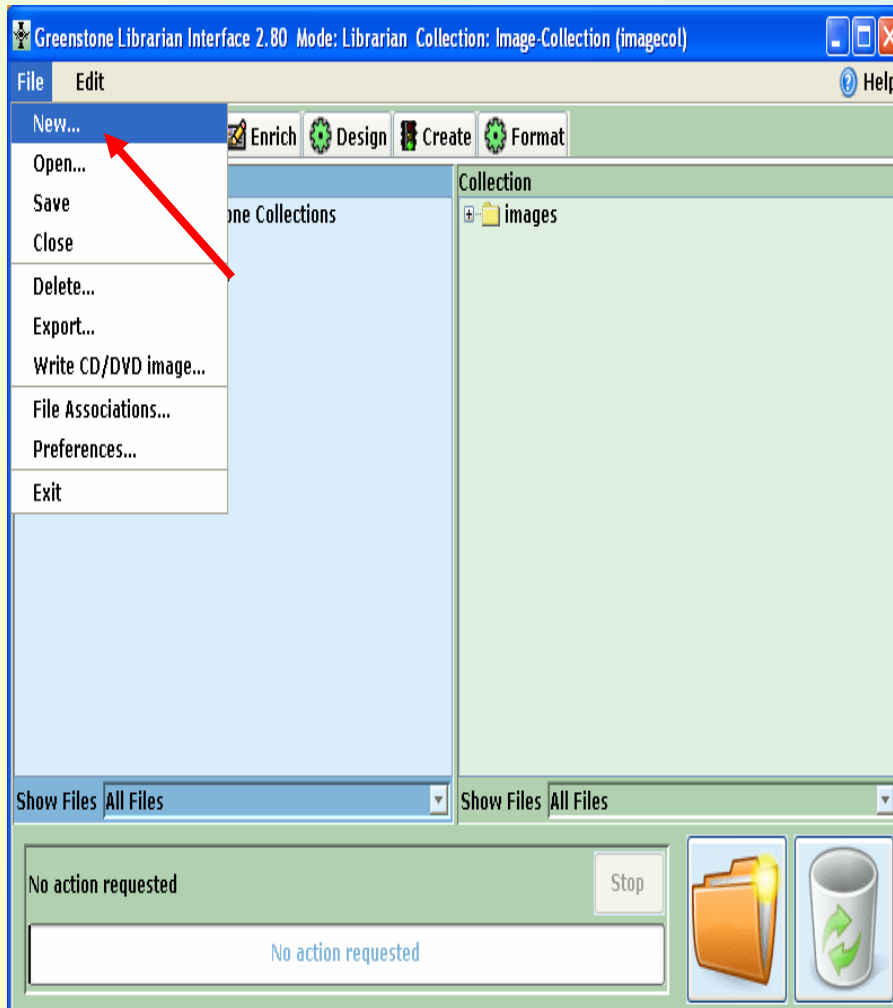
Collection Building

- **Input: a set of source documents**
- **Possibly in many different formats**
- **Greenstone “imports” these documents and converts them to its own internal (GA) format**
 - **Extracts as much metadata as possible**
- **Greenstone “builds” indexes and browsing structures using the GA files**
- **Start with a few documents, get the design right, then add the bulk of the documents**



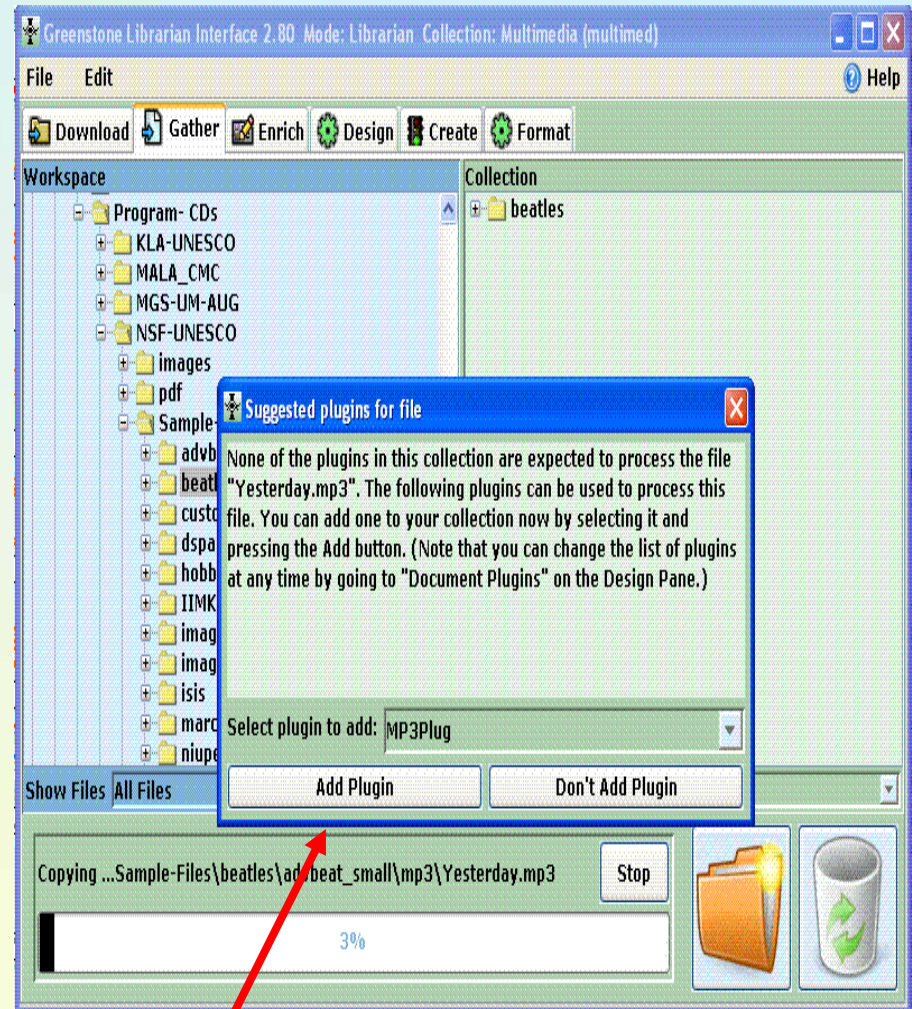
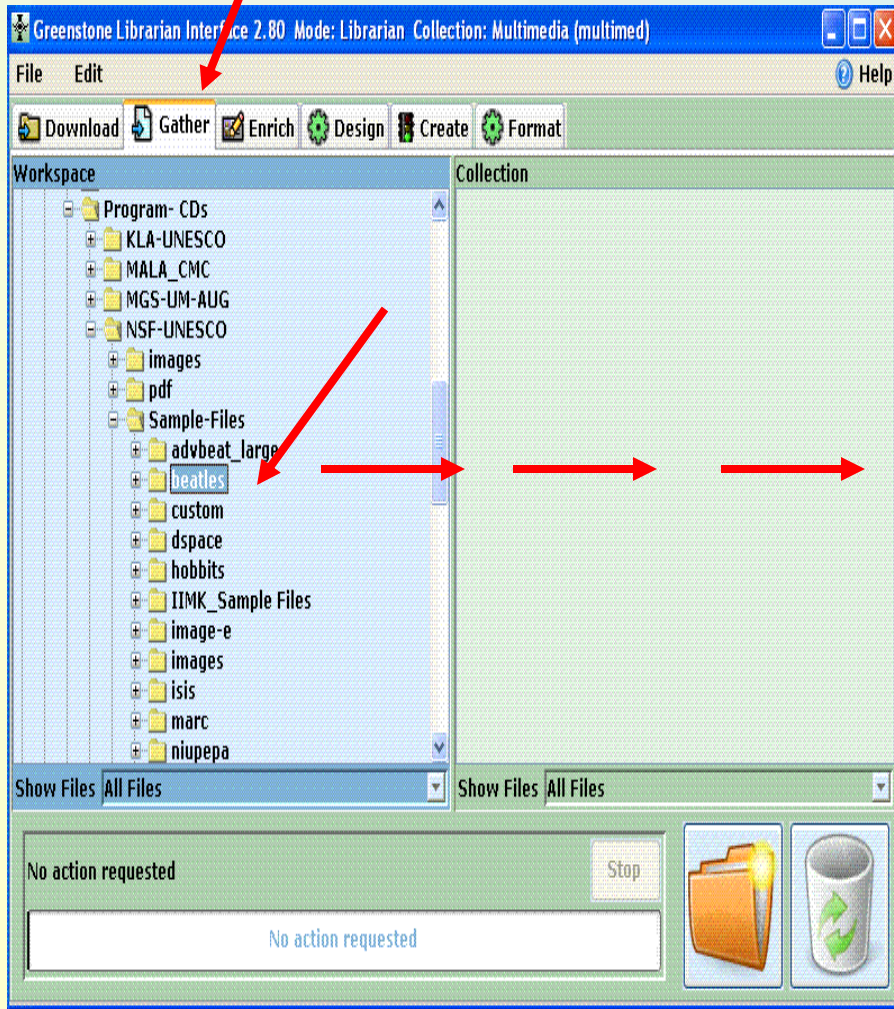
Building a New Collection

In GLI, Go to File, Select New and Say
“Multimedia” and base it to New



Building a New Collection

In Gather, Browse Files From Workspace & **Drag-Drop to Collection Area**

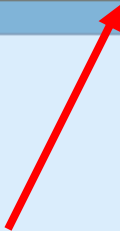


Workspace

- Documents in Greenstone Collections
- Local Filespace
- Home Folder (NEWUSER)
- Downloaded Files
- sample_files
 - beatles
 - advbeat_large
 - advbeat_small
 - discography
 - html_lyrics
 - images
 - marc
 - mp3
 - tablature_txt
 - wordpdf
 - beatles_midi.zip
 - format_tweaks
- custom
- dspace
- hobbits
- images
- isis
- marc
- niupepa
- oai
- tudor
- Word_and_PDF

Collection

- discography
- html_lyrics
- images
- marc
- mp3
- tablature_txt
- wordpdf
- beatles_midi.zip



Show Files All Files

Show Files All Files

No action requested

Stop

No action requested



maxdocs 1

OIDtype hash - Hash the contents of the file. Document identifiers will be the same every time the collection is imported.

to Document Identifier

Complete Rebuild

0%

Minimal Rebuild

Build Collection

Cancel Build

Preview Collection



Complete Rebuild 100%

Minimal Rebuild

Build Collection Cancel Build Preview Collection

The file C:\Program Files\Greenstone\collect\multmedi\tmp\beatles1.html is being processed by HTMLPlug.

The file C:\Program Files... processed by HTMLPlug.

The file C:\Program Files... processed by HTMLPlug.

The file C:\Program Files... processed by HTMLPlug.

The file C:\Program Files... processed by HTMLPlug.

The file C:\Program Files... processed by HTMLPlug.

The file C:\Program Files... processed by HTMLPlug.

The file beatles\format_t... processed by HTMLPlug.

The file beatles\format_t... processed by HTMLPlug.

The file beatles\format_t... processed by HTMLPlug.

The file beatles\format_tweaks\show_num_docs.txt is being processed by TEXTPlug.

***** Import Finished *****

790 documents were considered for processing:
709 documents were processed and included in the collection.
81 were unrecognised.

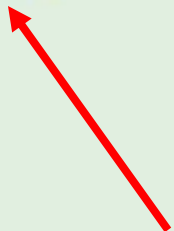
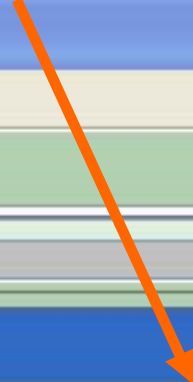
***** Build Started *****
Compressing text...
Creating an index based on text;Title;Source;...
Creating information database...
Creating auxiliary files and tidying up

Collection Creation Result

The collection has been built and is ready for previewing.

Do not show this message again

OK



multimedia

HOME HELP PREFERENCES

about

search

titles

filenames

Search for that contain of the words

About this collection

This collection contains 709 documents. It was last built 0 days ago.

How to find information in the Multimedia collection

There are 3 ways to find information in this collection:

- search for particular words that appear in the text by clicking the Search button
- browse documents by Title by clicking the Titles button
- browse documents by Filename by clicking the Filenames button

multimedia

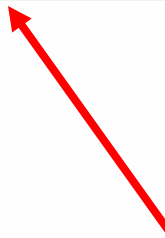
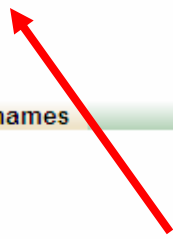
HOME HELP PREFERENCES

titles

search titles filenames

A B C D E F G H I J L M N O P R S T U W Y 0-9

- ABBEY ROAD
(abbeyroad.htm)
- Across The Universe
(across.htm)
- Act Naturally
(act.htm)
- Ain't She Sweet
(aint_she_sweet.htm)
- All I've Got To Do
(all_ive_got.htm)
- ALL MY LOVING
(allmy.txt)
- ALL MY LOVING
(allmy.txt)
- All My Loving
(all_my_loving.htm)
- All My Loving
(all_my_loving.htm)
- All Together Now
(all_together.htm)
- All You Need Is Love



greenstone digital library software

HELP PREFERENCES

select a collection

[Audios](#)

[Collection1](#)

Greenstone demo

[Image-Collection](#)

[isis-to-greenstone](#)

[multi-format collection](#)

[Multimedia](#)

[my-references](#)



- The Librarian Interface** Helps you create new collections, modify or add to existing ones, or delete collections
- Administration Page** Allows you to add new users, summarizes the collections in the system, gives technical information on the Greenstone installation
- About Greenstone** Tells you about the Greenstone software and the New Zealand Digital Library Project where it originated
- Greenstone Documentation** Greenstone manuals

Greenstone is a suite of software for building and distributing digital library collections. It provides a new way of organizing information and publishing it on the Internet or on CD-ROM. Greenstone is produced by the **New Zealand Digital Library Project** at the **University of Waikato**, and developed and distributed in cooperation with **UNESCO** and the **Human Info NGO**. It is open-source software, available from <http://greenstone.org> under the terms of the GNU General Public License.

The aim of the software is to empower users, particularly in universities, libraries, and other public service institutions, to build their own digital libraries. Digital libraries are radically reforming how information is disseminated and acquired in UNESCO's partner communities and institutions in the fields of education, science and culture around the world, and particularly in developing countries. We hope that this software will encourage the effective deployment of digital libraries to share information and place it in the public domain.

Action

- discography
- html_lyrics
- images
- marc
- mp3
- tablature_txt
- wordpdf
- beatles_midi.zip

Element	Value
dc.Title	
dc.Creator	
dc.Subject and Keywords	
dc.Description	
dc.Publisher	
dc.Contributor	
dc.Date	
dc.Resource Type	
dc.Format	Discography
dc.Resource Identifier	
dc.Source	
dc.Language	
dc.Relation	
dc.Coverage	

No Metadata Element Selected

Show Files All Files

Manage Metadata Sets...

Document Plugins

Assigned Plugins

ZIPPlug
GAPlug
TEXTPlug
HTMLPlug
EMAILPlug
PDFPlug
RTFPlug
WordPlug
PSPlug
ImagePlug
ISISPlug
NULPlug
MetadataXMLPlug
MP3Plug
MARCPlug
UnknownPlug -file_format MIDI -mime_type audio/midi -process_extension mid

↑ Move Up

↓ Move Down

Select plugin to add: BibTexPlug

Add Plugin...

Configure Plugin...

Remove Plugin

GeneralCreator's email: Maintainer's email: Collection title: Collection folder: URL to 'about page' image:


Browse...

URL to 'home page' image:

Browse...

 This collection should be publicly accessible

Collection description:

General
 Search
 Format Features 
 Translate Text
 Cross-Collection Search
 Collection Specific Macros

Format Features

[Help for this screen](#)

```
VList "<td valign=top>{If}{[numleafdocs],[link][icon][/link]}{If}{[dc.Format] eq 'Lyrics',[link]_iconlyrics_[/link]}
HList "[link][highlight][ex.Title][/highlight][/link]"
DocumentHeading "{Or}{[parent(Top):Title],[Title],untitled}<br>"
DocumentText "[Text]"
DocumentButtons "Detach|Highlight"
SearchTypes "plain,form"
```

Choose Feature *All Features*

Affected Component VList

HTML Format String

```
<td valign=top>
{If}{[numleafdocs],[link][icon][/link]}
{If}{[dc.Format] eq 'Lyrics',[link]_iconlyrics_[/link]}
{If}{[dc.Format] eq 'Discography',[link]_icondisc_[/link]}
{If}{[dc.Format] eq 'Tablature',[link]_icontab_[/link]}
{If}{[dc.Format] eq 'MARC',[link]_iconmarc_[/link]}
```

Insert Variable...

Undo

Redo

Preview Collection

Add Format

Remove Format

Reset to Default

A (slightly) enhanced collection - Multimedia



search

Search for

Add plugin

- UnknownPlug, set to accept MIDI files

Add metadata

- for "browse" button (8 items)
- for image titles (14 titles)
- to correct misspelling (*mistry*) (1 item)

Add/modify classifiers

- modify to display dc.title or ex.title
- add one for "browse" button
- remove the one for filename
- add one for phrase index
- add regular expressions to clean up titles

Modify format statements

- show title only for cover images
- suppress text document icon for MP3/MIDI items
- make bookshelves show how many documents they contain

General

- assign collection icons
- assign icons for non-standard media types: *lyrics*, *discography*, etc

About this collection

Demonstration collection illustrating the use of heterogeneous documents. Source document are about The Beatles pop group in the following formats: HTML, TXT, JPEG, Word, PDF, MIDI, MP3, and MARC file formats.

How to find information in the dbbeat_large collection

There are 4 ways to find information in this collection:

Customization

- Greenstone is specifically designed to be highly extensible and customizable.
- New document and metadata formats are accommodated by writing "plugins" (in Perl).
- Analogously, new metadata browsing structures can be implemented by writing "classifiers."
- The user interface look-and-feel can be altered using "macros" written in a simple macro language.
- A Corba protocol allows agents (e.g. in Java) to use all the facilities associated with document collections.
- Finally, the source code, in C++ and Perl, is available and accessible for modification

Customizing with macros

- let you customize presentation
- present pages in different languages
- print variables into the page text
(e.g. number of search hits)
- Macro files
 - stored in [gsdl/macros](#) folder
 - each file defines one or more “packages”
(A “package” is a group of macros)
 - loaded on startup
(note difference between Local and Web Library)
 - listed in [etc/main.cfg](#)
- Collection-specific macros
 - Stored in [gsdl/collect/mycol/macros/extra.dm](#)
 - Or include argument [\[c=collectionname\]](#) for each macro

Personalizing your home page

C:\Program Files\gsdl\etc\main.cfg

change *home.dm* to *yourhome.dm*

Netscape

File Edit View Go Window Help

HOME HELP PREFERENCES

Your own Greenstone home page

Search page for the demo collection [Click here](#)

"About" page for the demo collection [Click here](#)

Preferences page for the demo collection [Click here](#)

Home page [Click here](#)

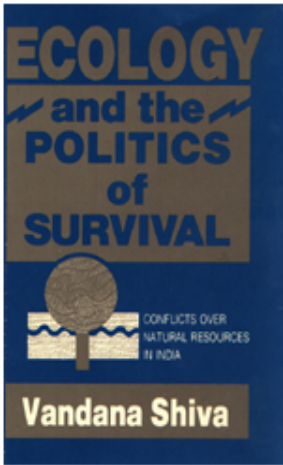
Help page [Click here](#)

Administration page [Click here](#)

The Collector [Click here](#)














http://localhost/gsd/cgi-bin/library?e=p-00-00-----00-0-0prompt-1Document---1011-1-en-50---20-home-

HOME HELP PREFERENCES
search titles a-z filenames



EXPAND TEXT CONTRACT CONTENTS
DETACH NO HIGH-LIGHTING

 **Ecology and The Politics of Survival: Conflicts Over Natural Resources in India**
source ref: ebookecopol.html

-  Metadata
-  Preface
-  Introduction
-  Part One: Forest Conflicts
 -  Chapter 1: Forest ecology and forest conflicts
 -  Chapter 2: The survival economy and forest conflicts
 -  Chapter 3: The chipko movement
 -  Chapter 4: Afforestation programmes and land use conflicts
 -  Chapter 5: Wasteland development and conflict over commons
-  Part Two :Water Conflicts
 -  Chapter 6: Conflicts over river waters
 -  Chapter 7: Large dams and conflicts in the Krishna Basin
 -  Chapter 8: Water scarcity and people's alternatives

Hierarchy Structure

Collection configuration

- Collection configuration file determines content conversion, extraction and building of indexes and browsing structures
 - indexes, classifiers, plugins
- Presentation of search/browse results and collection interface is determined by “format” strings and “macros”



Documentation and help

- Available at: www.greenstone.org
 - Software
 - Demo collections
 - FAQ
 - Tutorial materials
- Documentation:
 - Installer's Guide, User's Guide, Developer's Guide, From Paper to Collection
- Mailing lists:
 - Greenstone Users List
 - Greenstone Developers List



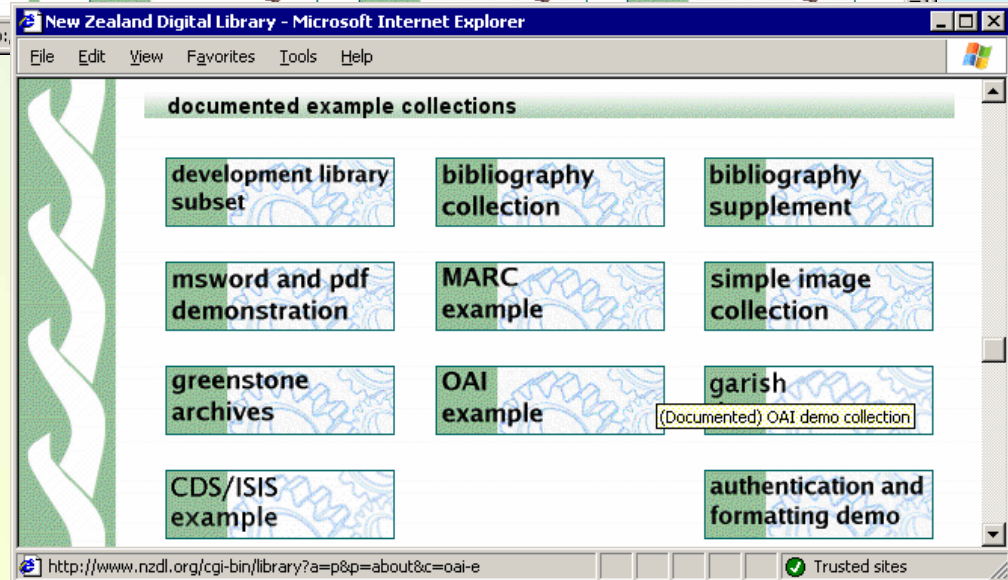
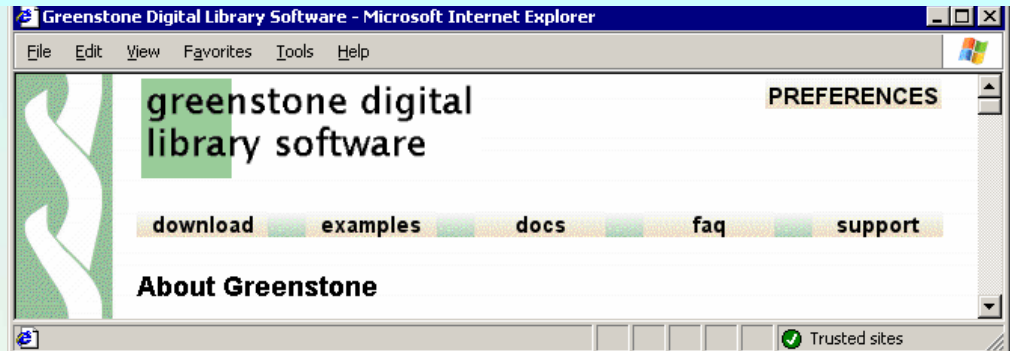
Documentation and help

Manuals on the CD-ROM (docs)

- *Installer's Guide* (install.pdf, 36pp)
Versions of Greenstone, installation procedure, Greenstone collections, setting up the web server, configuring your site, personalizing your installation
- *User's Guide* (user.pdf, 90pp)
Overview of Greenstone, using Greenstone collections, the collector, administration, software features, glossary of terms
- *Developer's Guide* (develop.pdf, 113pp)
Understanding the collection building process, getting the most out of your collections, the Greenstone runtime systems, configuring your Greenstone site
- *From Paper To Collection* (paper.pdf, 30pp)
Scanners and scanning, OCR, 3 examples – from 1,000 to 100,000 pages, Creating an electronic collection

Documentation and help

- greenstone.org
 - Download: software and tutorials
 - Example collections
 - Documentation
 - FAQ: general info section
 - support (+ join mailing list)
 - Configuration files for nzdl.org collections
- nzdl.org
 - Documentation collections
 - Documented
 - example collections
- greenstonesupport.iimk.ac.in
 - Download: software and tutorials
 - Example collections
 - Documentation
 - support (+ join mailing list)



Documentation and help

Mailing Lists

- *Greenstone Users List*

For people installing and using standard Greenstone

Join at: <https://list.scms.waikato.ac.nz/mailman/listinfo/greenstone-users>

Mail to: greenstone-users@list.scms.waikato.ac.nz

- *Greenstone Developers List*

For people customizing their version of Greenstone

Join at: <https://list.scms.waikato.ac.nz/mailman/listinfo/greenstone-devel>

Mail to: greenstone-devel@list.scms.waikato.ac.nz

- *Greenstone Support for South Asia* [<http://greenstonesupport.iimk.ac.in>]

Mail to: greenstonesupport@iimk.ac.in

Mailing List Archives

A Greenstone collection of mail from both mailing lists

<http://www.nzdl.org/gsarchives>



Indian Institute of Management Kozhikode

DIGITAL LIBRARY



- E Journals**
- Information Technology**
- Business**
- Economics**
- Generalia**
- Management**
- Psychology**
- Statistics**
- Journal alert**
- Videos**
- Environmental Science**
- Classics**
- Finance**
- E Commerce**
- Marketing**
- Sociology**
- IIMK Publications**
- News Archive**



About DL

Library Home

Powered by Greenstone

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DL - Hardships

- Copyright Issues
- Technology Complexities
- Infrastructure Issues
- Publications/Formats – Diverse Datastreams
- Digital Objects/Formats - Multiple
- Publishers' Policies – Stringent, Inconsistent

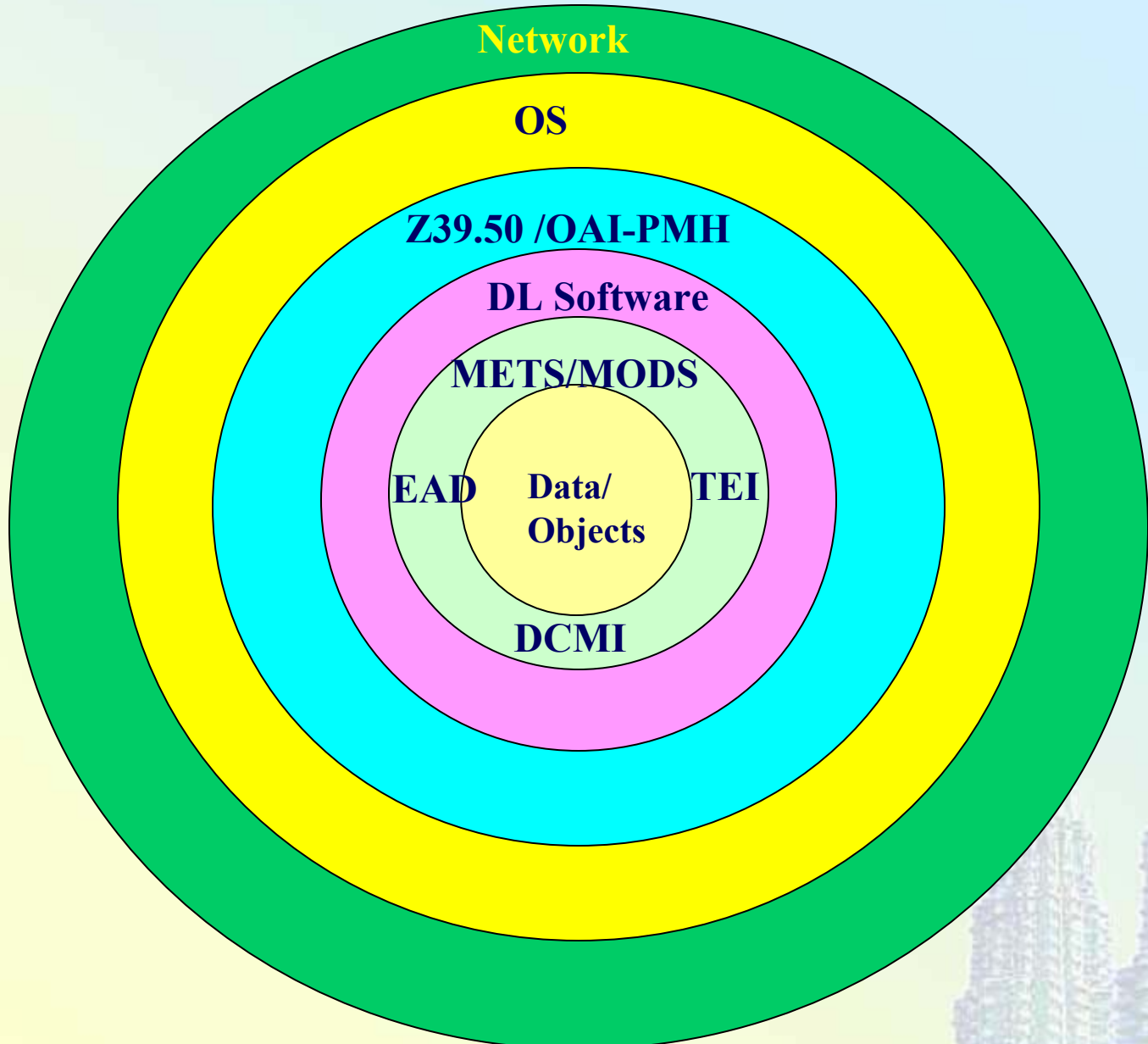


Major Tasks

- Content identification (internal / external)
- Content Creation
- Content Collation/Signposts
- Organisation
- Updation
- Retrieval / Dissemination
- User Training
- Archiving



DIGITAL LIBRARY ARCHITECTURE



http://greenstonesupport.iimk.ac.in

Address  http://greenstonesupport.iimk.ac.in/

Go

Links >>

Greenstone Support for South Asia

[Home](#)[Our Mission](#)[Resources](#) ▾[Training](#) ▾[Advisors](#)[Support Team](#)[Greenstone](#)

Greenstone Support for South Asia has been launched

The Greenstone Digital Library Software (<http://www.greenstone.org>) is an Open Source package for building and distributing Digital Libraries which has been developed by the University of Waikato, New Zealand. Greenstone is supported by the UNESCO and the Human Info NGO Belgium for spreading the benefits of this software to developing countries. Greenstone is a powerful and flexible software which is of great potential interest to libraries and information centers and other public and private institutions in South Asia.

This support effort is coordinated by the CDDL at IIM Kozhikode in collaboration with the [Greenstone development team](#) in order to ensure effective promotion and support for Greenstone in South Asia.

Site Search

Go



Events

[Advisory Sub Committee Meeting on April 16, 2007](#)

Workshops Coordinated by Greenstonesupport IIMK

Done

Internet

Start



<< >>

7:23 PM

Acknowledgement

- **Prof. Ian Witten, Director, Greenstone Digital Library Project, University of Waikato, New Zealand**
- **Team Greenstone, New Zealand**
- **Greenstone Support South Asia**
- **IIM Kozhikode, India**
- **University of Malaya, Malaysia**
- **UNESCO**



Thank you

Questions?

