IIMK’s Experience with Greenstone in Building Digital Library Collections

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Agenda

• Digital Libraries – Features, Advantages
• Technologies, Workflows, Processes and Functionalities
• Open Source Softwares, DL Software Selection
• Greenstone Digital Library Software
• Unleashing Greenstone
• IIMK’s Collection Dynamics
• Greenstone at IIMK
• E-Books, E-Journals, Videos…
• Collection Configuration
• Customization of Collection and Interface
Digital Libraries
Multimedia Library Info System

Internet / Intranet

USER @ anywhere (access to information from anywhere)
Organizational Transformation in Libraries

• Traditional / Automated
  » Organization is physical
  » Shelving of documents - Based on Subject Clin
  » 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 Technologies / Approaches

Traditional
Limited/ Rigid

Automated
Improved

Dig. Library
Efficient/ Flexible

AACR2
CCC
CC / LCCS
DDC / UDC
Thesauri/LCSH

AACR2
ISO 2709
CCF
MARC
Thesauri

Metadata
DCMI -- W3C
EAD, TEI, DTD
METS, MODS,
Z39.50
MARC21
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
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)
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
  - (CDS/ISIS, Koha)
Principles for Building DLs

- Expect change
- Know your content
- Involve the right people
- Design usable systems
- Ensure open access
- Be (a)ware of data rights
- Automate whenever possible
- Adopt and adhere to standards
- Ensure quality as well as reliability
- Be concerned about persistence
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 (Resource Description) 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
- METS, MODS, EAD, TEI…
- XML - The tool
Dublin Core Metadata Initiative

<table>
<thead>
<tr>
<th>Metadata</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>The name given to the resource by the creator or publisher</td>
</tr>
<tr>
<td>Creator</td>
<td>The person responsible for the intellectual content of the resource</td>
</tr>
<tr>
<td>Subject</td>
<td>The Topic of the resource</td>
</tr>
<tr>
<td>Description</td>
<td>A textual description of the content of the source</td>
</tr>
<tr>
<td>Publisher</td>
<td>The Entity responsible for making the resource available</td>
</tr>
<tr>
<td>Contributor</td>
<td>A person or organization (other than the Creator) who is responsible for making significant contributions to the intellectual content of the resource</td>
</tr>
<tr>
<td>Date</td>
<td>A date associated with the creation or availability of the resource</td>
</tr>
<tr>
<td>Type</td>
<td>The nature or genre of the content of the resource</td>
</tr>
<tr>
<td>Format</td>
<td>The physical or digital manifestation of the resource</td>
</tr>
<tr>
<td>Identifier</td>
<td>An unambiguous reference that uniquely identifies the resource within a given context</td>
</tr>
<tr>
<td>Source</td>
<td>A reference to a second resource from which the present resource is derived</td>
</tr>
<tr>
<td>Language</td>
<td>The language of the intellectual content of the resource</td>
</tr>
<tr>
<td>Relation</td>
<td>A reference to a related resource, and the nature of its relationship</td>
</tr>
<tr>
<td>Coverage</td>
<td>Spatial locations and temporal durations characteristic of the content of the resource</td>
</tr>
<tr>
<td>Rights</td>
<td>Information about rights held in the resource</td>
</tr>
</tbody>
</table>
The Dublin Core Metadata Initiative is an open forum engaged in the development of interoperable online metadata standards that support a broad range of purposes and business models. DCMI's activities include consensus-driven working groups, global workshops, conferences, standards liaison, and educational efforts to promote widespread acceptance of metadata standards and practices.

New Document
Position paper on records management / recordkeeping metadata is...
Greenstone DL Software

Overview of Features, Capabilities & Applications
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 Fact Sheet 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 information can be found in the book How to build a digital library, authored by two of the group's members.

The complete Greenstone interface and all documentation is available in English, French, Spanish, Russian and Kazakh. Greenstone also has interfaces in many other languages. We are looking for volunteers to add new language interfaces and help maintain existing ones.

**NEW** (Oct 11) Greenstone v2.71 released! A feature release containing lots and lots of improvements and new functionality. See the release notes for more information.

(Oct 5) There is now a Greenstone documentation Wiki that brings together all the Greenstone documentation in a single location.
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!
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
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

Multi-*
❖ Multilingual: Documents and interfaces
❖ Multimedia: image, video, audio collections exist
❖ Multiformat: Documents and metadata
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
<table>
<thead>
<tr>
<th>Tool</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MG</td>
<td>Creates compressed full-text indexes and performs searches</td>
</tr>
<tr>
<td>GDBM</td>
<td>Database used for metadata etc</td>
</tr>
<tr>
<td>wget</td>
<td>Downloading pages from the Web when creating collections</td>
</tr>
<tr>
<td>YAZ</td>
<td>Client and server implementation of Z39.50</td>
</tr>
<tr>
<td>Stemmer</td>
<td>English language stemmer</td>
</tr>
<tr>
<td>GCC</td>
<td>C/C++ compiler</td>
</tr>
<tr>
<td>CVS</td>
<td>Version control system</td>
</tr>
<tr>
<td>Perl</td>
<td>Used for plugins etc</td>
</tr>
<tr>
<td>Apache</td>
<td>Web server used by many Greenstone installations</td>
</tr>
<tr>
<td>OAI-PMH</td>
<td>OAI Performance</td>
</tr>
</tbody>
</table>
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
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’, and ‘Create’ panel for making collection
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)
- Customize Appearance
- Preview Collection
The Greenstone Librarian Interface (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)

- (Tutorial exercise #5: small collection of HTML files)
- Invoke GLI: build a small collection of HTML files
- Gather
- Create
- Look at extracted metadata
- Set up shortcut in the Librarian interface
<table>
<thead>
<tr>
<th>Element</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>dc.Title</td>
<td>Computer Fundamentals</td>
</tr>
<tr>
<td>dc.Creator</td>
<td></td>
</tr>
<tr>
<td>dc.Subject and Key</td>
<td></td>
</tr>
<tr>
<td>dc.Description</td>
<td></td>
</tr>
<tr>
<td>dc.Publisher</td>
<td></td>
</tr>
<tr>
<td>dc.Contributor</td>
<td></td>
</tr>
<tr>
<td>dc.Date</td>
<td></td>
</tr>
<tr>
<td>dc.Resource Type</td>
<td></td>
</tr>
<tr>
<td>dc.Format</td>
<td></td>
</tr>
<tr>
<td>dc.Resource Identifier</td>
<td></td>
</tr>
<tr>
<td>dc.Source</td>
<td></td>
</tr>
<tr>
<td>dc.Language</td>
<td></td>
</tr>
<tr>
<td>dc.Relation</td>
<td></td>
</tr>
<tr>
<td>dc.Coverage</td>
<td></td>
</tr>
</tbody>
</table>

Existing values for dc.Creator
General

Creator's email: mgsree@iimk.ac.in
Maintainer's email: mgsree@iimk.ac.in
Collection title: test
Collection folder: test
URL to 'about page' icon:
URL to 'home page' icon:
This collection should be publicly accessible

Collection description:
Document Plugins

Currently Assigned Plugins

- plugin ZIPPlug
- plugin GAPPlug
- plugin TEXTPlug
- plugin HTMLPlug-smart_block
- plugin EMAILPlug
- plugin PDFPlug
- plugin RTFPlug
- plugin WordPlug
- plugin PSPlug
- plugin ImagePlug
- plugin NULPlug

Select plugin to add: BibTexPlug

Add Plugin  Configure Plugin  Remove Plugin
Search Indexes

Assigned Indexes

document:ex.Title "titles"
document:ex.Source "filenames"

document:text "text" [Default Index]

Index Name:

Build index on:

dc.Contributor
dc.Coverage
dc.Creator
dc.Date
dc.Description
dc.Format
dc.Language
dc.Publisher
dc.Relation
dc.Resource Identifier
dc.Resource Type
dc.Rights Management
dc.Source

At the level:
document

Add Index
Add All
Replace Index
Remove Index
This facility is currently disabled because you are operating in Librarian mode. It can only be accessed in Library Systems Specialist and Expert modes. Use File->Preferences to alter the mode of operation.
Browsing Classifiers

Currently Assigned Classifiers
classify AZList -metadata ex.Title
classify AZList -metadata ex.Source

Select classifier to add: AllList

Add Classifier  Configure Classifier  Remove Classifier
**Metadata Sets**

Available Metadata Sets

metadataset dc "Dublin Core Metadata Element Set, Version 1.1: Reference Description"
metadataset ex "Extracted Greenstone Metadata 1.0"

**Elements in selected Metadata Set**

- dc.Title: A name given to the resource. Typically, a Title will be a name by which the resource is known.
- dc.Creator: An entity primarily responsible for making the content of the resource. Examples include authors, performers, directors, creators, contributors, originators, editors, and others.
- dc.Subject and Keywords: The topic of the content of the resource. Typically, a Subject will be a keyword or term used to describe the content of the resource.
- dc.Description: An account of the content of the resource. Description may include background, purpose, goals, and other context.
- dc.Publisher: An entity responsible for making the resource available. Examples of a Publisher could be a university department, library, or other entity.
- dc.Contributor: An entity responsible for making contributions to the content of the resource. Contributions may include editing, reviewing, or other forms of assistance.
- dc.Date: A date associated with an event in the life cycle of the resource. Typically, a Date will be a date at which the resource was created, published, or updated.
- dc.Type: The nature or genre of the content of the resource. Type includes formats like book, article, video, etc.
- dc.Format: The physical or digital manifestation of the resource. Typically, Format may refer to the medium in which the resource is available.
- dc.Resource Identifier: An unambiguous reference to the resource within a given context. Typically, a Resource Identifier will identify the resource uniquely.
- dc.Source: A Reference to a resource from which the present resource is derived. This could be a reference to a parent resource or a reference to other related resources.

**Buttons:**
- Add Metadata Set
- Edit Metadata Set
- Remove Metadata Set
Create a new collection

To create a new collection fill out the fields below.

Collection title: About hobbits

Description of content:
A little collection about little people

Base this collection on: -- New Collection --
Gather: Gather the files together
Create: Build the collection

************** Import Started **************
The file bilbo.html is being processed by HTMLPlug.
The file Frodo.html is being processed by HTMLPlug.
The file merry.html is being processed by HTMLPlug.
The file pippin.html is being processed by HTMLPlug.
The file sam.html is being processed by HTMLPlug.
************** Import Finished **************
5 documents were considered for processing:
   5 documents were processed and included in the collection.
About hobbits

Search titles a-z filenames

Search for text that contain some of the words

Begin Search

About this collection

A little collection about little people

How to find information in the About hobbits collection

These are 3 ways to find information in this collection:

- search for particular words
- access publications by title
- access publications by filename

You can search for particular words that appear in the text from the "search" page. This is the first page that comes up when you begin, and can be reached from other pages by pressing the search button.

You can access publications by title by pressing the titles a-z button. This brings up a list of books in alphabetical order.

You can access publications by filename by pressing the filenames button. This brings up a list of entries, sorted by original filename.
The Collection configuration file

- name, icon, etc
- description
- email of creator
- search indexes
- plugins
- classifiers

**how to format**
- documents
- query results
- classifiers

```plaintext
creator sjboddie@cs.waikato.ac.nz
maintainer sjboddie@cs.waikato.ac.nz
public true
beta true

indexes section:text section:Title document:text
defaultindex section:text

plugin GAPPlug
plugin ArcPlug
plugin RecPlug

classify Hierarchy -hfile sub.txt -metadata Subject -sort Title
classify HDLList -metadata Title
classify Hierarchy -hfile org.txt -metadata Organization -sort Title
classify List -metadata Howto

format SearchVList "<td valign=top>[link][icon][/link]<td>
  <td>{If}{[parent(All': '):Title],[parent(All': '):Title]: } [link][Title][/link]<td>
format CL4VList "<br>[link][Howto][/link]"
format DocumentImages true
format DocumentText "<h3>[Title]</h3><h3></h3><p>[Text]"

collectionmeta collectionname "greenstone demo"
collectionmeta collectionextra "This is a demonstration collection for the Greenstone digital library software. It contains a small subset (11 books) of the Humanity Development Library"

collectionmeta iconcollectionsmall "/gsdl/collect/demo/images/demosm.gif"
collectionmeta iconcollection "/gsdl/collect/demo/images/demo.gif"
collectionmeta .section:Title "section titles"
collectionmeta .document:text "entire books"
collectionmeta .section:text "chapters"
```
Alter configuration

- Add full-text index of titles
- ... or authors
- Add alphabetic author browser
- Include Word documents
- Include PDF documents
- Separate index for each language
- Extract acronyms and add list
- Import OAI metadata
- Extract phrase hierarchy and add browser
- Alter the format of any of the above
- Restrict collection’s interface langs
- Change default interface language

indexes document:Title
indexes document:Creator
classify AZList –metadata Creator
plugin WordPlug
plugin PDFPlug
languages en fr es
plugin PDFPlug –extract_acronyms
plugin OAIPlug
classify Phind
format ...
format PreferenceLangs en | fr | es
cgiarg shortname=1 argdefault =fr
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

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
Hierarchy Structure

- Ecology and The Politics of Survival: Conflicts Over Natural Resources in India
  - 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
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:

- 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
Mailing Lists

- **Greenstone Users List**
  For people installing and using standard Greenstone
  Join at: [https://list.scms.waikato.ac.nz/mailman/listinfo/greenstone-users](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](https://list.scms.waikato.ac.nz/mailman/listinfo/greenstone-devel)
  Mail to: greenstone-devel@list.scms.waikato.ac.nz

Mailing List Archives

A Greenstone collection of mail from both mailing lists
[http://www.nzdl.org/gsarchives](http://www.nzdl.org/gsarchives)
IIMK’s Core Collection & Resource Discovery Strategies

Online Catalogues (OPACs)

Digital Library

CD Net Server (local repository)

Databases (A/I/F)

Cases / Reports

Books (P/E)

Journals (P/E)

Aggregated Journal Content

Online Journals

Statistics

Economics

Company Information

Industry Information
E-Books

- The most prominent in a DL collection
- Providing PDF/DOC/PS... formats as such are NOT desirable from the User’s perspective
- Look at features/functionalities provided by EPrints, DSpace, VTLS, ACADO and many others and relate/compare with Greenstone
- Greenstone provides the most in end-user customization of E-Books
- Metaphorical - The reader’s approach to reading/convenience/psych are well taken care of
- Flexibility in Collection Aggregation and Presentation
Prerequisites & Preparations

- Vision / Mission
- Strategy / Planning
- Collections / Formats
- Presentation – Format, Structure, Style...
- Features Kitty Provided by Greenstone
- Dressing up of Objects/E-Books
- Lab Test, Confirmation and Validation
- Moving the Collection to the DL
Collections – E-Books

- Business
- Classics
- E-Commerce
- Economics
- Environmental Science
- Generalia
- Finance
- Information Technology
- Marketing
- Sociology
- Psychology
E-Book Dressing : HTML Docs.

• Section Tagging – in XML format
  – `<Section> ..... </Section>`
• Passing the Tags in the HTML page as Comments `<!-- and - -->`
• Forming them in Loops/Nests
• Making the Cover Image
• Naming it with the same as the Source Doc
• Placing the Image in the Same Folder with the Source File
• Design Panel > HTML Plugin Configurations > `description_tags`
• Format Panel > Format Features > `DocumentImages True`
<!DOCTYPE html>
<html>
  <head></head>
  <body>
    <section>
      <description>
        <metadata name="Title">Title of the Book</metadata>
      </description>
    </section>
    <!-- TEXT OF THIS CHAPTER GOES HERE -->
    <section>
      <description>
        <metadata name="Title">Title of the Chapter</metadata>
      </description>
    </section>
    <!-- TEXT OF THIS CHAPTER GOES HERE -->
    <section>
      <description>
        <metadata name="Title">Title of the Chapter</metadata>
      </description>
    </section>
    <!-- TEXT OF THIS CHAPTER GOES HERE -->
    <section>
      <description>
        <metadata name="Title">Title of the Chapter</metadata>
      </description>
    </section>
    <!-- TEXT OF THIS CHAPTER GOES HERE -->
  </body>
</html>
Document Plugins

Assigned Plugins

ZIPPlug
GAPlug
TEXTPlug
HTMLPlug -description_tags
EMAILPlug
PDFPlug
RTFPlug
WordPlug
PSPlug
ImagePlug
ISISPlug
NULPlug

Select plugin to add: BibTexPlug

Add Plugin...
### Format Features

<table>
<thead>
<tr>
<th>Feature</th>
<th>HTML Format String</th>
</tr>
</thead>
<tbody>
<tr>
<td>DateTime</td>
<td><code>&lt;td&gt;[[link][icon][/link]]&lt;/td&gt;</code></td>
</tr>
<tr>
<td>Highlight</td>
<td><code>&lt;td&gt;[[highlight][ Or][[dls.Title],[dc.Title],[ex.Title],Untitled]][/highlight]&lt;/td&gt;</code></td>
</tr>
<tr>
<td>Description List</td>
<td><code>&lt;td&gt;[link][highlight][ex.Title][/highlight][/link]</code></td>
</tr>
<tr>
<td>Description List</td>
<td><code>&lt;td valign=&quot;top&quot;&gt;[link][icon][/link]&lt;/td&gt;</code></td>
</tr>
<tr>
<td>Description List</td>
<td><code>&lt;td valign=&quot;top&quot;&gt;[ex.srclink]{Or}{[ex.thumbicon],[ex.sricon]}[ex.srclink]&lt;/td&gt;</code></td>
</tr>
<tr>
<td>Descriptive Text</td>
<td><code>&lt;td valign=&quot;top&quot;&gt;[Text]</code></td>
</tr>
<tr>
<td>Detach Button</td>
<td><code>&lt;br&gt;</code></td>
</tr>
<tr>
<td>Detach Button</td>
<td>`&quot;Detach</td>
</tr>
<tr>
<td>Document Images</td>
<td><code>true</code></td>
</tr>
</tbody>
</table>

**Choose Feature**: All Features

**Affected Component**: VList

**HTML Format String**

```html
<td valign="top">[link][icon][/link]</td>
<td valign="top">[ex.srclink]{Or}{[ex.thumbicon],[ex.sricon]}[ex.srclink]</td>
<td valign="top">[highlight]
{Or}{[dls.Title],[dc.Title],[ex.Title],Untitled}
[/highlight]
[/highlight]{If}{[ex.Source],<br><i>{[ex.Source]}</i>}</td>
```
Tobacco War by Stanton A. Glantz and Edith D. Balbach
(tobacco.html)

- Metadata
- Preface
- 1. Introduction
- 2. Beginnings: The Nonsmokers' Rights Movement
- 3. Proposition 99 Emerges
- 4. Beating the Tobacco Industry at the Polls
- 5. Beating the Tobacco Industry
- 6. Proposition 99's First Implementing Legislation
- 7. Implementing the Tobacco Control Program
- 8. The Tobacco Industry's Response
- 9. The Battle over Local Tobacco Control Ordinances
- 11. Battles over Preemption
- 12. The End of Acquiescence
- 13. The Lawsuits
- 14. Doing It Differently
- 15. Political Interference in Program Management
- 16. Lessons Learned
- Appendix A
- Broadband: Bringing Home the Bits Committee on Broadband Last Mile Technology
  source ref: ebookband.html
- Engines of Creation - K. Eric Drexler
  source ref: ebookeng.html
- Exploring Java By Patrick Niemeyer & Joshua Peck
  source ref: ebookjava.html
- Global Networks and Local Values
  source ref: ebookgln.html
- How to Think Like a Computer Scientist
  source ref: ebookhtt.html
- Learning Samba by Robert Eckstein, David Collier-Brown, Peter Kelly
  source ref: ebooksam.html
- Linux Kernel by David Rosing
  source ref: ebooklk.html
- Linux Network Administrator's Guide
  source ref: linuxadmin.html
- Optimizing C++
  source ref: ebookcpp.html
- Rights and Responsibilities of Participants in Networked Communities
DL Collection / E-Books

- Greenstone uses wvWare for .Doc to HTML Conversion
- Use the Windows Native Scripting feature to get Hierarchy Structure
- Using Word Styles
- Make the Cover Image
- Name it same as the Source Doc
- Place the Image in the Same Folder with the Source File
- Design Panel > Word Plugin Configurations > -windows_scripting
- Search Indexes > Check the Section as well as Document Levels
- Format Panel > Format Features > DocumentImages True
Document Plugins

Assigned Plugins
ZIPPlug
GAPlug
TEXTPlug
HTMLPlug\smart_block
EMAILPlug
PDFPlug
RTFPlug
WordPlug\windows\scripting\metadata_fields Title,Author<Creator>,Subject,Keywords<Subject>
PSPlug
ImagePlug
ISISPlug
NULPlug

Select plugin to add: BibTexPlug

Add Plugin...  Configure Plugin...  Remove Plugin
Format Features

VList 

HList

DocumentHeading

DocumentText

DocumentButtons

SearchTypes

DocumentImages true

Choose Feature DocumentImages

Enabled
1992-96 Working Papers (word04.doc)
1997-00 Listing of Working Papers (word01.doc)
Authorship patterns in Information Systems (rtf01.rtf)
bibliography_for_dl_scientometrics.do (pdf03.pdf)
Bronwyn; page: 1 of 11 Using language models for generic entity extraction (langmodl.ps)
Clustering with finite data from semi-parametric mixture distributions (cluster.ps)
A Design of local resource access control for mobile agent in PDA (word05.doc)
Distributing Digital Libraries on the Web, ...
(FILE INTEGRITY CHECKER USING MOBILE AGENTS (word06.doc)
Greenstone: A Comprehensive Open-Source ... (pdf01.pdf)
Greenstone: A Comprehensive Open-Source Digital Library Software System
A Design of local resource access control for mobile agent in PDA

Takuya Iizuka, †, Angel Lau, Nonemember and Tatsuya Suda ††, Member
E-Journals

• Collection Features
  • Over 1500 E-Journals
  • Online only Access
  • IP based authentication
  • Objective – Easy, Flexible and Smart Access

• Collection Strategy
  • Subject-wise collections
  • Provision for Cross-collection Searches
  • HTML Based PURL Collection Lists
  • Collection Building / Configurations
  • Link-out facility
  • Smart Integration with the DL
File Organization
Accounting, Management and Information Technologies

Accounting, Auditing & Accountability Journal

Accounting, Organizations and Society

Critical Perspectives on Accounting

The International Journal of Accounting

International Journal of Accounting Information Systems

International Journal of Intelligent Systems in Accounting

Journal of Accounting and Economics

Journal of Accounting and Public Policy

Journal of Accounting Education

Journal of International Accounting, Auditing and Taxation
<table>
<thead>
<tr>
<th>Document Plugins</th>
<th>Assigned Plugins</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZIPPlug</td>
<td>EMAILPlug</td>
</tr>
<tr>
<td>GAPPlug</td>
<td>PDFPlug</td>
</tr>
<tr>
<td>TEXTPlug</td>
<td>RTFPlug</td>
</tr>
<tr>
<td>HTMLPlug-nolinks</td>
<td>WordPlug</td>
</tr>
<tr>
<td></td>
<td>PSPlug</td>
</tr>
<tr>
<td></td>
<td>ImagePlug</td>
</tr>
<tr>
<td></td>
<td>ISISPlug</td>
</tr>
<tr>
<td></td>
<td>NULPlug</td>
</tr>
</tbody>
</table>

Select plugin to add: BibTexPlug
<table>
<thead>
<tr>
<th><strong>General</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Creator's email</td>
<td><a href="mailto:mgsree@iimk.ac.in">mgsree@iimk.ac.in</a></td>
</tr>
<tr>
<td>Maintainer's email</td>
<td><a href="mailto:mgsree@iimk.ac.in">mgsree@iimk.ac.in</a></td>
</tr>
<tr>
<td>Collection title</td>
<td>ajournal</td>
</tr>
<tr>
<td>Collection folder</td>
<td>ajournal</td>
</tr>
<tr>
<td>URL to 'about page' image</td>
<td><em>httpprefix</em>/collect/ajournal/images/ejou.gif</td>
</tr>
<tr>
<td>URL to 'home page' image</td>
<td><em>httpprefix</em>/collect/ajournal/images/ejou.gif</td>
</tr>
<tr>
<td>This collection should be publicly accessible</td>
<td>✔</td>
</tr>
<tr>
<td>Collection description:</td>
<td>The collection contains electronic journals on various subjects</td>
</tr>
</tbody>
</table>
Finance

Bottom Line: Managing Library Finances, The

Balance Sheet

Chartered Financial Analyst

Financial Analyst Journal

Financial Services Review

Global Finance Journal

ICFAI Journal of Applied Finance

ICFAI Reader

International Journal of Finance and Economics
A Videos Digital Library

**Collection/Service Features using traditional systems**
- Over 300 Educational Videos
- VCR/TV based Viewing
- Limited Services
- Limited Access

**Collection Strategy**
- IIMK Library decides its videos go digital
- Copyright permissions from publishers
- Fully based on Open Source Softwares
- As a Bibliography Collection
- Balance the Server Load (above 20 GB)
This service is a prototype of an ongoing research project of CDDL at IIMK. Access to these resources is governed by copyright law and individual license agreements.

Download and install Streaming Media Player to view videos.

Financial management and planning (Series No. 2)
Financial management planning (Series No. 2)

This service is a prototype of an ongoing research project of CDDL at IIMK. Access to these resources is governed by copyright law and individual license agreements.

Download and install Streaming Media Player to view videos.
Video Streaming Server

- Unreal Streaming Media Server
- Streaming Media Server Configurations
- Place the Videos (Mpeg)
- Unreal Streaming Media Client
- Linking the Media Files in the HTML page
- ums:\TCP:streamserver:5119\video\file.mpg
- Place the Unreal Media Client for easy download, plug and play
About this collection

IIMK Videos

This collection contains 87 documents, a total of 176 kb.

Click here to view the build summary for this collection.

How to find information in the avideos collection

There are 3 ways to find information in this collection:

- search for particular words
- access publications by title
A-B  C-O  P-W  0-9

- Achieving competitive advantage: Managing for organizational effectiveness
  (v27.htm)
- All the right moves: a case study in product strategy
  (v41.htm)
- Because it's there: a case study in retailing
  (v46.htm)
- Breaking down the great wall: a case study
  (v34.htm)
- Breaking through the chitter: a case study
  (v38.htm)
- Business of management: Building commitment and motivation
  (v71.htm)
- Business of management: Communicating
  (v61.htm)
- Business of management: Control and organizational Behaviour
  (v77.htm)
- Business of management: Controlling
Achieving competitive advantage: Managing for organizational effectiveness

Library & Information Center (LIC)

Video Library

This service is a prototype of an ongoing research project of CDDL at IIMK. Access to these resources is governed by copyright law and individual license agreements.

Download and install Streaming Media Player to view videos.

Achieving competitive advantage: Managing for organizational effectiveness
Search for text that contain all of the words

strategy

Begin Search

Word count: strategy: 10
7 documents matched the query.

- Business of management: Survival and advancement (v80.htm)
- Off and running: a case study in promotional strategy (v51.htm)
- Testing the waters: a case study in service strategy (v43.htm)
- All the right moves: a case study in product strategy (v41.htm)
- Breaking down the great wall: a case study (v34.htm)
- Eye of the beholder (v215.htm)
Search for text that contain all of the words
porter

Word count: strategy: 10
7 documents matched the query.

- Business of management: Survival and advancement (v80.htm)
- Off and running: a case study in promotional strategy (v51.htm)
- Testing the waters: a case study in service strategy (v43.htm)
- All the right moves: a case study in product strategy (v41.htm)
- Breaking down the great wall: a case study (v34.htm)
- Eye of the beholder (v215.htm)
Download and install Streaming Media Player to view videos.

Michael Porter on Competitive Strategy Pt 1
Strategic Management Strategy Harvard Business School HBS V204 NE&IF
Home Page Customization

- Greenstone Pages are controlled by macro files (available in Greenstone → macros), images, and CSS stylesheets (available in Greenstone → images)
- Reference to “yourhome.dm” in main.cfg
- Customize “yourhome.dm”
Events: All important events
CollectorEvents: Just those events originating from the collector (e.g. someone just built a collection)
Disabled: Don’t log events
Events disabled
Mail the maintainer whenever any event occurs. EmailEvents takes the same values as LogEvents.
Note that perl must be installed for EmailEvents or MailUserEvents to work.
Events disabled

In some cases it may be appropriate to email the user about a certain event (e.g. notification from the collector that a collection is built successfully)
UserEvents false

A list of display macro files used by this receptionist
Profiles:

tip.dm style.dm base.dm query.dm help.dm pref.dm about.dm

document.dm browse.dm status.dm authen.dm users.dm html.dm

extlink.dm gsd1.dm extra.dm youhome.dm collect.dm deposit.dm docs.dm

bssummary.dm gti.dm gli.dm nav_css.dm languages.dm

english.dm english2.dm french.dm french2.dm spanish.dm

spanish2.dm russian.dm russian2.dm

hebrew.dm czech.dm czech2.dm galician.dm galician2.dm

indo.dm indo2.dm japanese.dm japanese2.dm thai.dm thai2.dm

kazakh.dm kazakh2.dm port-br.dm port-pt.dm

chinese.dm german.dm maori.dm arabic.dm arabic2.dm dutch.dm

italian.dm italian2.dm turkish.dm turkish2.dm

ukrainian.dm croatian.dm hindi.dm kannada.dm finnish.dm

greek.dm armenian.dm armenian2.dm farsi.dm serbian.dm georgian.dm

georgian2.dm catalan.dm catalan2.dm latvian.dm latvian2.dm

vietnamese.dm vietnamese2.dm chinese-trad.dm chinese-trad2.dm

mongolian.dm mongolian2.dm kirghiz.dm bengali.dm polish.dm gaelic.dm

slovak.dm urdu.dm urdu2.dm marathi.dm

Define the interface languages and encodings supported by this receptionist

"Encoding" line defines an encoding to be used by the receptionist. Include "Encoding" lines to include an encoding on your "preferences" page.

Encoding line options are:

shortname -- The standard charset label for the given encoding. The shortname option is mandatory.

longname -- The display name of the given encoding. If longname isn’t set it will default to using shortname instead.

map -- The name of the map file (i.e. the .ump file) for use when converting between unicode and the given encoding. The map option is mandatory for all encoding lines except the special case for utf8.

altbyte -- This optional argument should be set for all encodings that use
ckage home
content_ {

cml>
head>
tle>..: IIMK Digital Library ..</title>
sta http-equiv="Content-Type" content="text/html; charset-iso-8859-1">
head>
script language="javascript" src="popup.js"></script>
ody background="images/bgiimk.jpg" leftmargin="0" topmargin="0" bottommargin="0">
able width="778" height="100%" border="0" align="center" cellpadding="0" cellspacing="0">
<tr>
<td ABLE WIDTH=778 BORDER=0 CELLPADDING=0 CELLSPACING=0>
<TR>
  <TD COLSPAN=3> <IMG SRC="images/index-backup_01.jpg" WIDTH=189 HEIGHT=107 ALT=""/></TD>
  <TD COLSPAN=7> <IMG SRC="images/index-backup_02.jpg" WIDTH=174 HEIGHT=107 ALT=""/></TD>
  <TD COLSPAN=4> <IMG SRC="images/index-backup_03.jpg" WIDTH=161 HEIGHT=107 ALT=""/></TD>
  <TD COLSPAN=6> <IMG SRC="images/index-backup_04.jpg" WIDTH=160 HEIGHT=107 ALT=""/></TD>
  <TD WIDTH=94 HEIGHT=107 COLSPAN=2 NOWRAP BGCOLOR=#D9E73></TD>
  <TD HEIGHT=107 NOWRAP></TD>
</TR>
</TD>
<TR>
  <TD> <IMG SRC="images/index-backup_06.jpg" WIDTH=116 HEIGHT=16 ALT=""/></TD>
  <TD COLSPAN=2> <IMG SRC="images/index-backup_07.jpg" WIDTH=73 HEIGHT=16 ALT=""/></TD>
  <TD COLSPAN=7> <IMG SRC="images/index-backup_08.jpg" WIDTH=174 HEIGHT=16 ALT=""/></TD>
  <TD COLSPAN=4> <IMG SRC="images/index-backup_09.jpg" WIDTH=161 HEIGHT=16 ALT=""/></TD>
  <TD COLSPAN=6> <IMG SRC="images/index-backup_10.jpg" WIDTH=160 HEIGHT=16 ALT=""/></TD>
  <TD COLSPAN=2> <IMG SRC="images/index-backup_11.jpg" WIDTH=94 HEIGHT=16 ALT=""/></TD>
  <TD HEIGHT=16 NOWRAP></TD>
</TR>
</TD>
<TR>
  <TD> <IMG SRC="images/index-backup_12.jpg" WIDTH=116 HEIGHT=30 ALT=""/></TD>
  <TD WIDTH=118 HEIGHT=30 COLSPAN=3 NOWRAP BGCOLOR=#D9E73></TD>
</TR>
</table>
items. It was created by the Secretary of Human Rights of Argentina under the Comisión Nacional por el Derecho a la Identidad (CUNADI), which is a National Commission that fights for the right that a person has for knowing his or her identity -- particularly when their parents have disappeared.

**Illinois Wesleyan University Argus Digital Collection**
Illinois Wesleyan University's newspaper. The Argus has been published under student supervision continuously since 1864. This digital collection is part of an on-going project to preserve and provide access to Argus volumes published from 1894-2000.

**Indian Institute of Management, Kozhikode**
The Indian Institute of Management Kozhikode (http://www.iiimk.ac.in) is a premier management school set up by the Government of India during 1996. The Center for Development of Digital Libraries (CDDL) is a multi-media, multi-publication type and multi-format library with books, monographs, reports, journals, cases and educational videos forming part of its growing collection. The video collection is a recent addition which uses only open source software and open standards for its entire workflow.

**Indian Institute of Science Publications Database**
Indian Institute of Science, Bangalore - 560012, Karnataka, India is a premier institution of advanced research and teaching, with more than 2000 active researchers working in almost all frontier areas of science and technology. Started in 1909 by J. N. Tata, the Institute publishes about 2,000 publications including journals, articles, conference publications, patents, reports, books, books and chapters every year, according to this study. An effort is made here to compile these publications from several identified sources, remove duplicate records, standardise the metadata details. The database is web-enabled using Greenstone.

**Kyrgyz Republic National Library**
**Kyrgyz Epic Poem Manas**, a rare book from the National Library of Kyrgyzstan; and a collection of dissertations and abstracts from Kyrgyz scientists on subjects such as agriculture, medicine, mining industry, history and culture of the Kyrgyz Republic.

**Lehigh University Digital Bridges Collection**
A collection containing thirty books about bridges, all of which were published between 1811 and 1899. The collection was created at Lehigh University, Pennsylvania and features a heavily customized user interface.

**Mirabilia Vicomercati**
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
Greenstone Support for South Asia

The Greenstone Support effort for South Asia has been launched on April 5 2006
[Click here to see the launch photos]

Upcoming Trainings in India --- National Workshop on Greenstone Digital Library SoC

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.

Greenstone Support Organization for India (GSOI)

This Website and the accompanying Electronic Discussion and Support Forum (E-List) is the first step in the establishment of a Greenstone Support Organization for India (GSOI). To this end, the CDDL is coordinating the development of a network of Greenstone users and a feasibility study on GSOI under the supervision of an Advisory Committee.

Invitation to Greenstone Users in South Asia
The Greenstone Support for South Asia has been launched photos

Greenstone V 2.7.9 released
There is now a Greenstone Wiki that brings together all Greenstone features/services

Upcoming Trainings in India:
National Workshop On Greenstone Digital Library Software,

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Invitation to Greenstone Users in South Asia
The Indian Institute of Management Kozhikode (IIMK) is the fifth IIM, established in 1996 by the Government of India in collaboration with the Government of Kerala. With campus infrastructure fully operational now, it is fast emerging as an internationally reckoned, fully integrated, management institute of higher learning. The Institute seeks to inculcate a spirit of lifelong learning and aspires to strengthen the capabilities of integrating concepts with applications and values. It contributes towards the development of communities of dependable, capable, caring and fair-minded people.

The Institute covers a wide range of academic activities in the field of management:
- Research and Publication
- Post Graduate Programme (PGP) – two year full-time residential programme
- Management Development Programme (MDP) – short term residential programmes in advanced management topics for middle, senior and top level managers
- Interactive Distance Learning Programme - Satellite Technology enabled, short and long (up to one year) duration programmes for working Executives
- Faculty Development Programme (FDP) – short term programmes for management teachers
- Conferences and Seminars.

The programmes of the Institute are designed to respond to the intellectual capital requirement of business and industry. Notwithstanding the IIM brand equity, IIMK is ever mindful of the ‘Law of Paradox’. Innovation has been replaced by imitation, and the constant endeavour is to be better than the best.

The Institute strives to develop an innovative academic environment through the synergy between faculty, students, industry, and technology. The Institute encourages constant interaction with the industry and other leading management/research institutes. It draws from the experience of the industry leaders and leading management researchers by regularly inviting them to the Institute.

The MDPs cater to contemporary issues in the practice of management. These are based on the research and consulting experience of the faculty of IIMK and provide insights into real life problems faced by managers.
Acknowledgement

- Prof. Ian Witten, Director, Greenstone Digital Library Project, University of Waikato, New Zealand
- Team Greenstone, NZ
- UNESCO
- ICDL 2006
- Ministry HRD, Government of India
- IIM Kozhikode