Independent University **Bangladesh (IUB)**

IUB Academic Repository

IUB Library Workshop

2014-05-01

Two Day-Long Training on “DSpace” Institutional Repository Organized by BALID Institution of Information Management (BIIM)

Ahammad, Nur

IUB Library

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Two Day-Long Training on “DSpace” Institutional Repository

Organized by

BALID Institution of Information Management (BIIM)



1-2 May 2014

Venue: CIRDAP

DSpace Overview
Why DSpace better than Others

Edited By

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Independent University, Bangladesh

Institutional Repository

Institutional repositories collect, preserve, and disseminate the intellectual output of an institution in digital form. Increasingly, institutional repositories include other items unique to the university as well, such as digitized historic documents and archival materials (Nykanen, Melissa 2011). An IR is a set of services and technologies that provide the means to collect, manage, provide access to, disseminate, and preserve digital materials produced at an institution. While most institutional repositories are based at colleges and universities, they also exist in governmental agencies, museums, corporations, and other organizations. Within colleges and universities, most IRs are managed by the library (Markey, Rieh, St. Jean, Kim, & Yakel, 2007)".

What is Dspace?

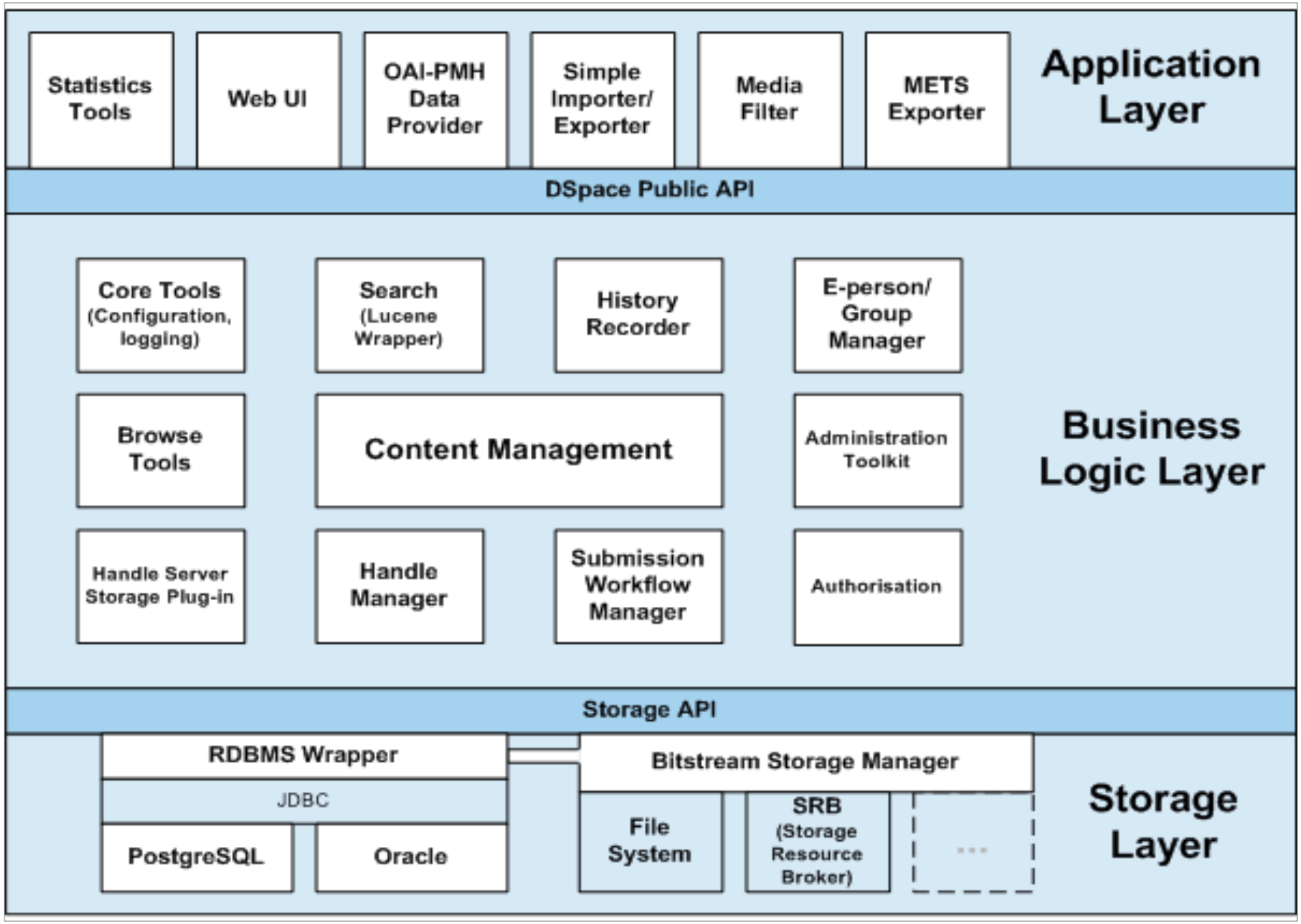
• A groundbreaking **digital repository system**, DSpace captures, stores, indexes, preserves and redistributes an organization's research material in digital formats. Research institutions worldwide use DSpace for a variety of digital archiving needs - from institutional repositories (IRs) to learning object repositories or electronic records management, and more. DSpace is freely available as open source software you can customize and extend. An active community of developers, researchers and users worldwide contribute their expertise to the DSpace Community.

• The first public version of DSpace was released in November 2002, as a joint effort between developers from MIT and HP Labs. Following the first user group meeting in March 2004, a group of interested institutions formed the DSpace Federation, which determined the governance of future software development by adopting the Apache Foundation's community development model as well establishing the DSpace Committer Group. In July 2007 as the DSpace user community grew larger, HP and MIT jointly formed the DSpace Foundation, a not-for-profit organization that provided leadership and support. In May 2009 collaboration on related projects and growing synergies between the DSpace Foundation and the Fedora Commons organization led to the joining of the two organizations to pursue their common mission in a not-for-profit called DuraSpace. Currently the DSpace software and user community receives leadership and guidance from DuraSpace.

Top Reasons To Use DSpace

- Largest community of users and developers worldwide
- Free open source software
- Completely customizable to fit your needs
- Used by educational, government, private and commercial institutions
- Can be installed out of the box
- Can manage and preserve all types of digital content

DSpace System Architecture



Technology Uses in DSpace

- Java Web Application
- RDBMS: PostgreSQL/Oracle
- Web interfaces: JSPUI which uses JSP and the Java Servlet API and XMLUI (aka Manakin) based on Apache Cocoon, using XML and XSLT
- OAI-PMH v2.0 and Capable METS exporting Pakages
- Common interoperability standards for IR : SWORD (protocol)/RSS/Open Search
- Faceted Search
- Solr (Lucence)
- Unique URL e.g. handle/DOI

Software for DSpace

- Debain Linux Operating System (ver-6, Squeeze)
- sun-java6-jdk
- tomcat6
- maven2
- postgresql-8.4
- Apache2 for font-end web-server
- Open-Office or LibreOffice Writer for converting word file to PDF. (This is not mandatory, because word file can be directly uploaded to DSpace without converting into pdf)
- IrfanView (freeware/shareware) for resizing and converting images in variety of formats.
- Trassaract OCR Open Source Software
- Screen Capture Elite (Firefox add-ons) for capturing live web images (Specially for news clippings)

Hardware requirement for Dspace

Minimal DSpace Production system requirements

- 2 GB of Random Access Memory (RAM)
  - 1GB for Tomcat
  - 1GB for Database (PostgreSQL or Oracle).
- 20 GB of Storage (or roughly enough storage for all the files you wish to store in DSpace)

This minimal system should be able to support DSpace sites of roughly 20,000 items or less. Though the exact number of items will depend on the amount of activity (searches, accesses, downloads, etc) within the DSpace site.

Mid-range DSpace Production system

- 4 GB of Random Access Memory (RAM)
- 200 GB of Storage (or roughly enough storage for all the files you wish to store in DSpace)

This mid-range system may be necessary for DSpace sites which either have a larger number of items (roughly 50,000 or more) or a larger amount of activity (searches, accesses, downloads, etc) within the system.

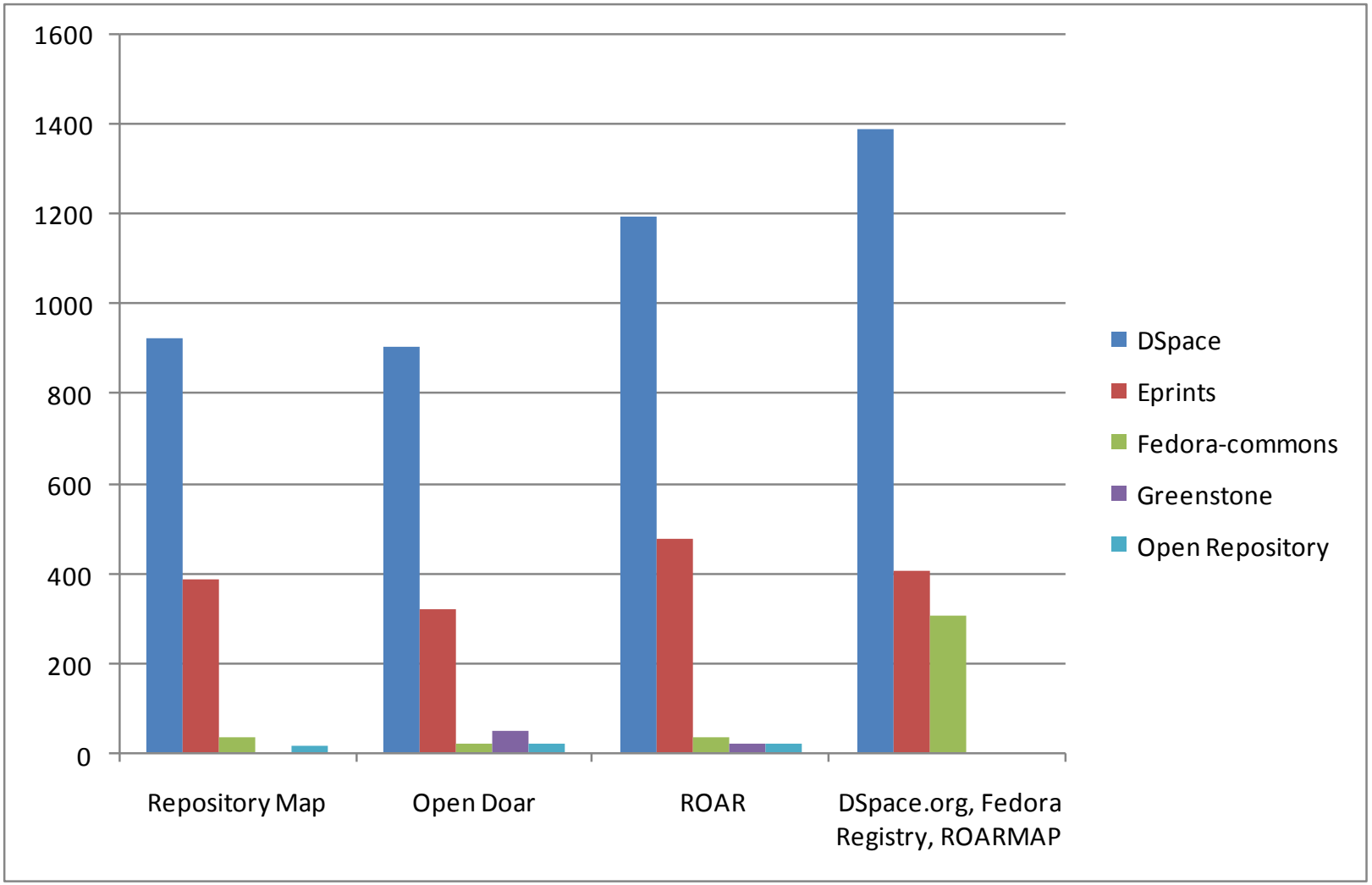
Hardware requirement for Dspace

High End DSpace Production system requirements:

- Quad Core processor
- 8GB of Random Access Memory (RAM)
- 73 GB 15,000 rpm network disks in RAID accessible over a **gigabit** connection for storing the database and indexes
- 7,400 rpm network disks in RAID accessible over a **gigabit** connection for storing the data whose size can be easily expanded.

The high-end system should only be necessary for extremely large or extremely active DSpace sites. The majority of DSpace sites should not require this high end system until they experience a larger amount of growth or activity.

Repository users according to different sources



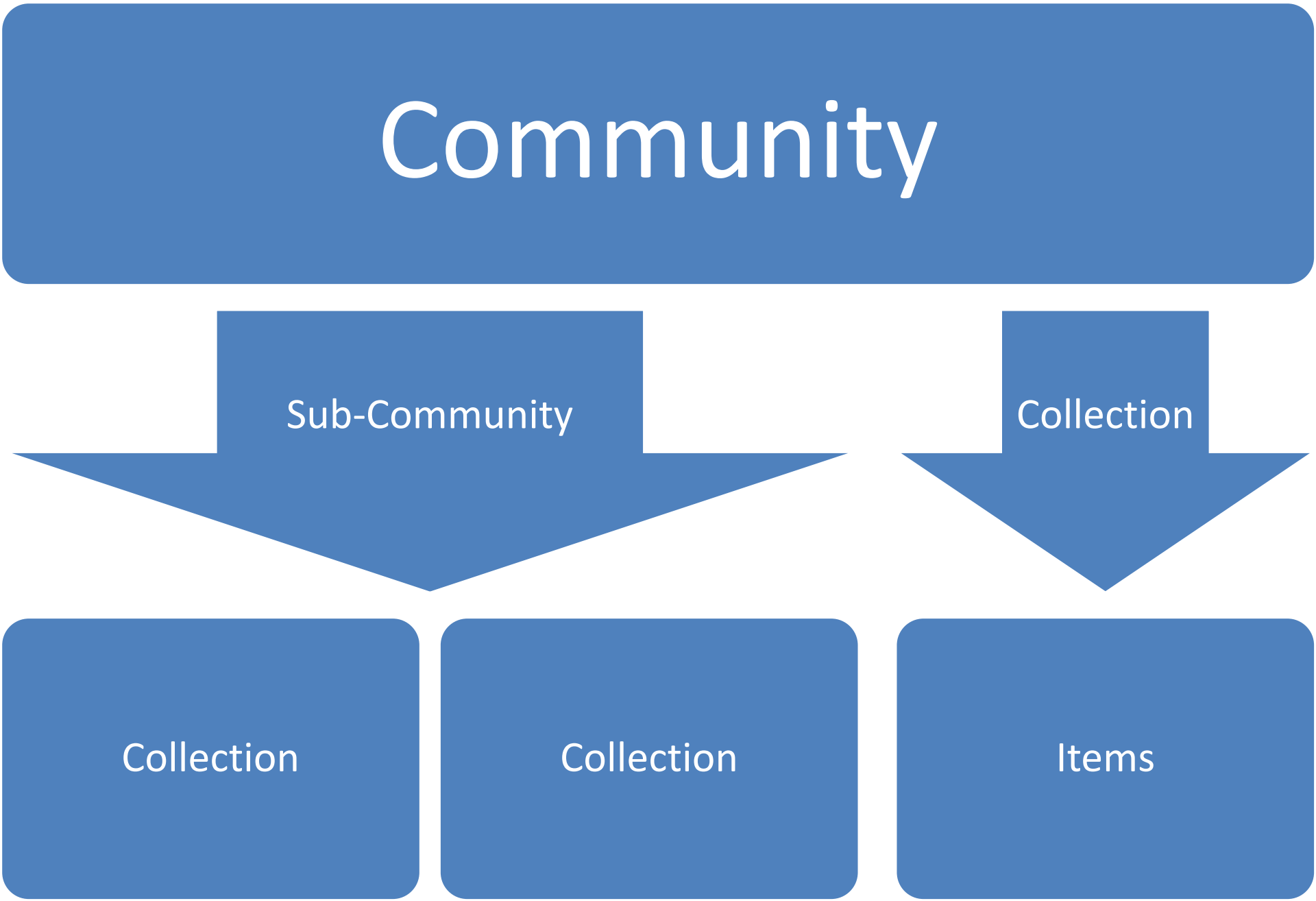
Comparison Between DSpace and Greenstone

Features	Dspace	Greenstone
RDBMS for Metadata Storage	PostgreSQL/Oracle	No RDBMS
Persistent Identifier	CNRI handle and DOI	Does not use
Mechanism for audit for integrity	Dspace checksum Checker	No such type of tool
Events and Format Logs	All type of logs In main log file	Some logs. No logs for collections and digital object
Migration of Metadata formats or Digital object formats	Cross-walking capabilities	Not have a means to do this
Access control/Internet Address Filter	Item view restriction and it can filter internet address	Does not support
Protocol Supports	OAI-PMH, OAI-ORE, SWORD, WebDAV, OpenSearch, OpenURL, RSS, ATOM	OAI-PMH, METS & Z39.50

Organizational Hierarchy of Community, Sub-community, Collection and Items



Organizational Hierarchy of Community, Sub-community, Collection and Items

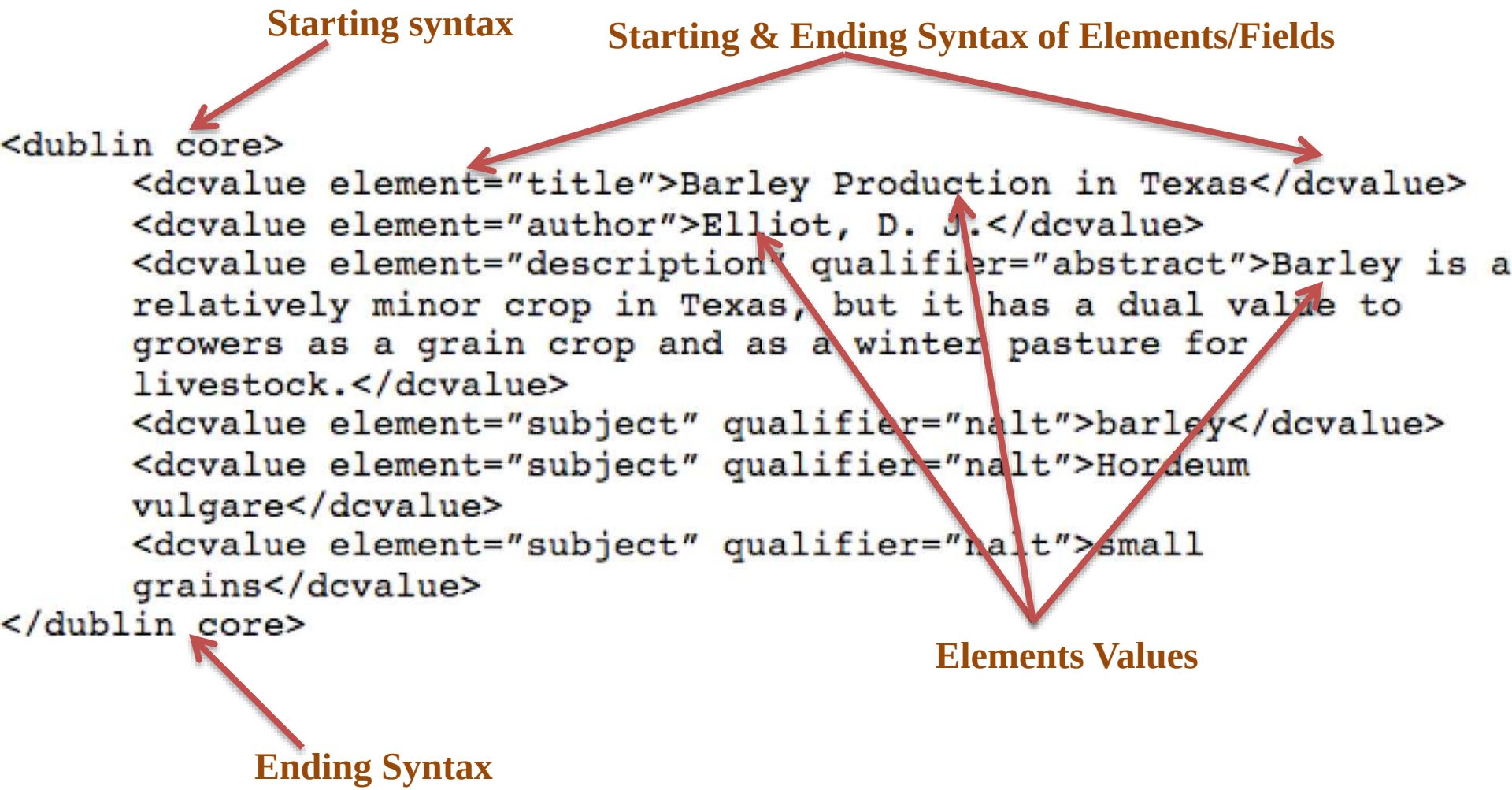


DSpace Uses Dublin Core Metadata

Fifteen Core Elements of DC

Creator	Title	Subject
Contributor	Date	Description
Publisher	Type	Format
Coverage	Rights	Relation
Source	Language	Identifier

DSpace Uses Dublin Core Metadata



DSpace Web UI

Digital Institutional Repository

Independent University, Bangladesh

Login

DSpace Home → Community List

IUB Institutional Repository

Welcome to IUB Digital Repository. The purpose of this repository is to collect, preserve, and distribute digital materials of IUB. Repositories are important tools for preserving an organization's legacy; they facilitate digital preservation and scholarly communication.

DSpace Web User Interface

Communities in DSpace

Select a community to browse its collections.

- Bangla Language Institute [0]
- Center for Health, Population and Development [0]
- International Center for Climate Change and Development [0]
- IUB Library [4]
- IUB Publication [13]
- Miscellaneous [14]
- News Clippings [20]
- School of Business [46]
- School of Engineering & Computer Science [0]
- School of Environmental Science & Management [0]
- School of Liberal Arts & Social Sciences [3]
- School of Life Science [0]
- School of Public Health [8]

Search DSpace

Enter some text in the box below to search DSpace.

Go

Search DSpace

Go

Advanced Search

Browse

All of DSpace
- Communities & Collections
- By Issue Date
- Authors
- Titles
- Subjects

My Account

Login
Register

Discover

Author
- Rahman, M Omar (8)
- Hoque, K M Alimul (5)
- Chowdhury, Muhammad Hossam Haider (4)
- The Daily Star (3)
- Chow, Clara K. (2)
- Daily Sun (2)
- daily sun (2)
- Independent University, Bangladesh (2)



Login

Digital Institutional Repository

Independent University, Bangladesh

DSpace Home → Community List

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- Center For Health, Population and Development [0]
- International Center for Climate Change and Development [0]
  - Article [0]
  - Thesis Papers [0]
- IUB Library [1]
  - Article [0]
  - Mnual [1]
- IUB Publication [1]
  - Annual Report [1]
  - Green Book 2011-20[illegible] [2]
  - The Independent chronicle [1]
  - IUB Catalogue/Prospectus [2]
    - School of B[illegible]ness Course Catalogue [2]
  - IUB update [4]
    - IUB update 2012 [4]
- Miscellaneous [1]
  - Article [0]

Community

Collection

Sub-Community

Search DSpace

Go

Advanced Search

Browse

All of DSpace
Communities & Collections
By Issue Date
Authors
Titles
Subjects

My Account

Login
Register



Freedom