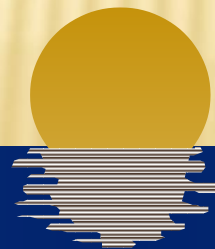

**Virtual Workshop on Design and Development of
Digital Repository using DSpace**

**@
LISPA ASSAM**

Metadata Capital

From Institutional Digital Repository to Library Discovery

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Department of Library and Information Science
University of Kalyani**





Metadata Capital

Metadata is a necessary component of any digital information system

- Positive aspect
 - helps people and machines find, access, and use information
- Challenges
 - related to quality, cost, and standards that limit metadata effectiveness and most metadata operations are far from perfect



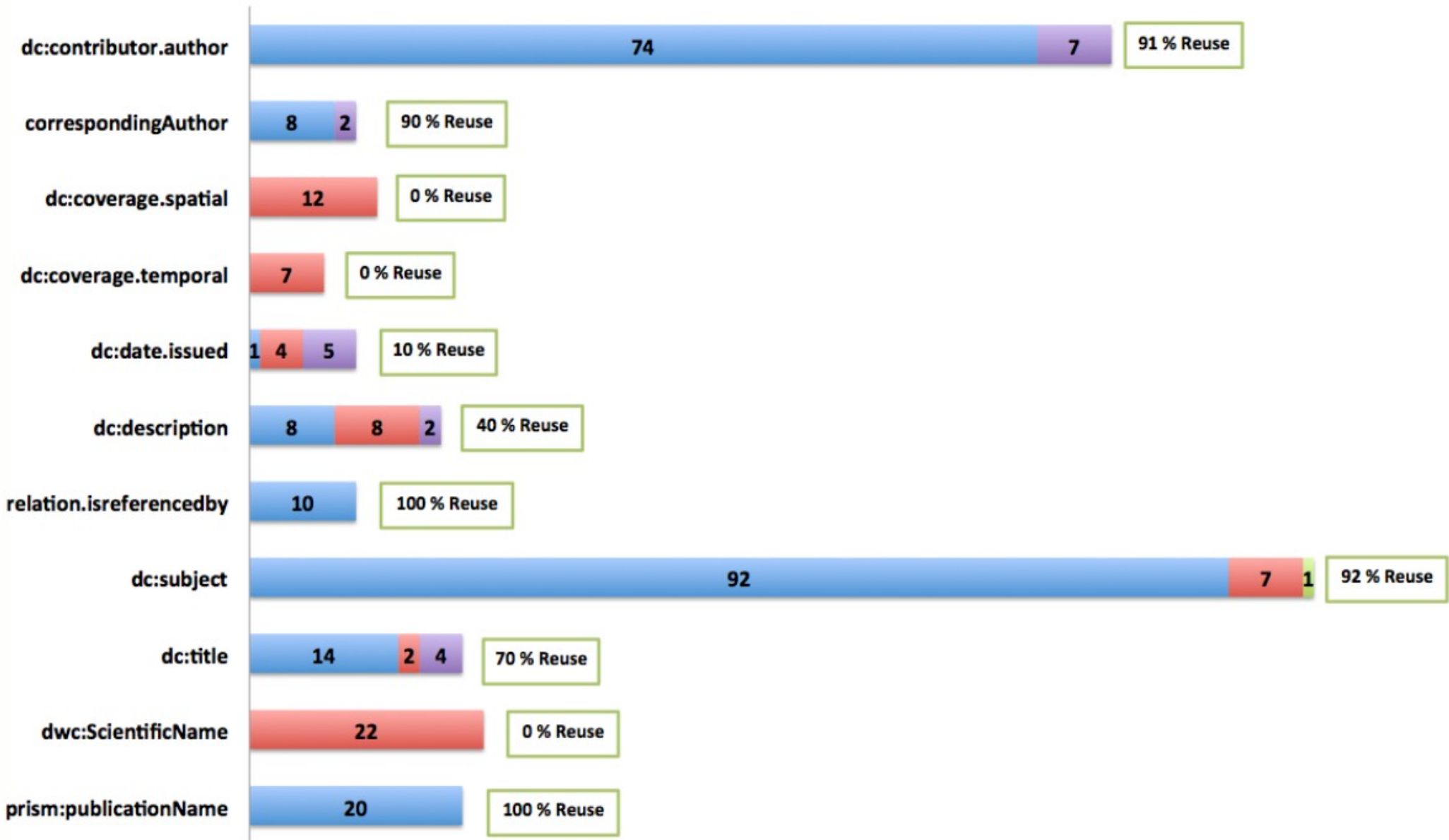
Metadata capital

Metadata capital, as first articulated, underscores metadata as an asset, **the value of which may increase via reuse**

If good quality metadata is reused over time, there might be an increase in its value in comparison to the initial investment made to produce it

FIGURE 2: PHASE 1 - CASE A & B COMBINED

■ Reused ■ Added ■ Deleted ■ Modified



But the real problem is.....



hussein suleman

@slumou

 Follow

"metadata is like a toothbrush" - everyone knows they need it but nobody wants to use anyone else's
[#codata2010](#)

7:33 AM - 26 Oct 2010

2 RETWEETS

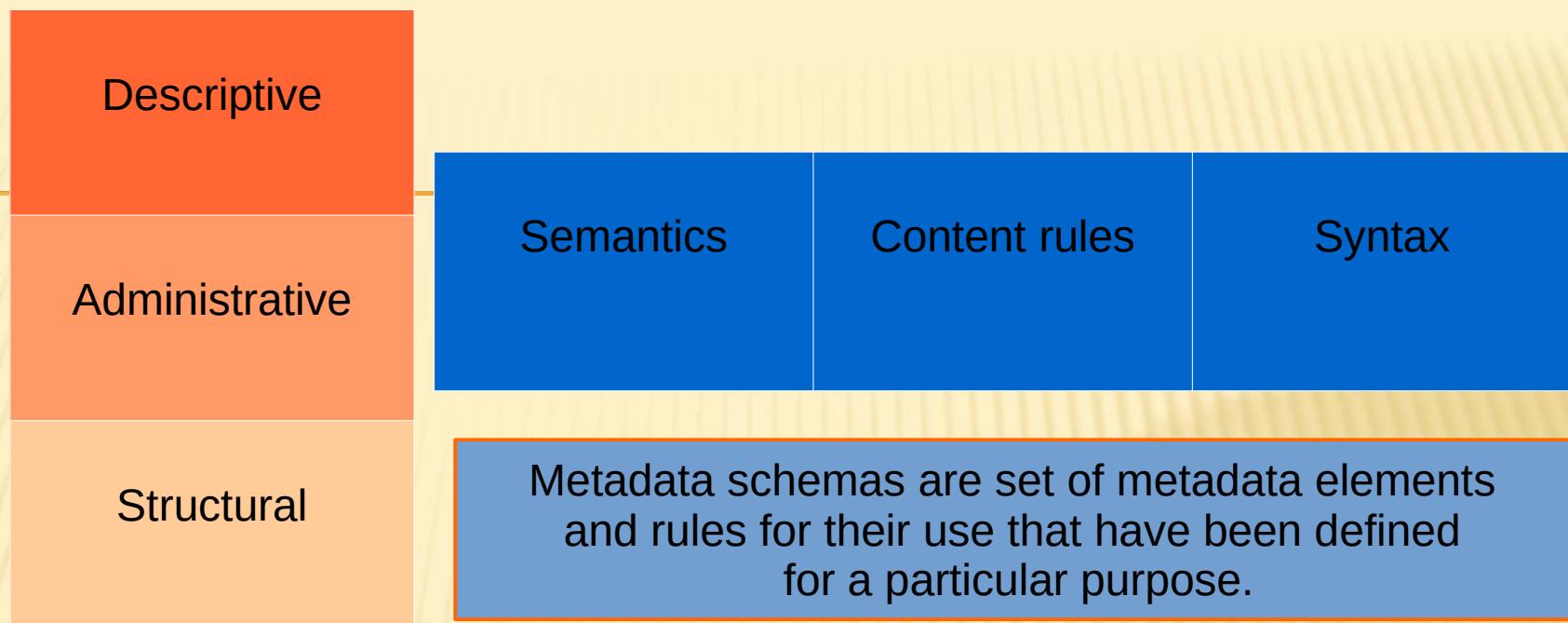


Metadata in libraries

Metadata exists for almost every conceivable object or group of objects, whether stored in electronic form or not.

In the library world, one easily identifiable form of metadata is the card catalogue; the information on the card is metadata about a book.

In a traditional library, where cataloguing is the work of trained professionals, complex metadata schemes such as MARC, CCF etc. are used for description of library resources.



- **Descriptive metadata** is meant to serve the purposes of discovery (i.e. how one can find a resource), identification (i.e. how a resource can be distinguished from other similar resources), selection (i.e. how to determine that a resource fills a particular need), collocation (bringing together related works), obtain (obtaining a copy of resource, or access to one) and other related functions (evaluation, linkage and usability).
- **Administrative metadata** is information intended to facilitate the management of resources such as date of creation, rights and restrictions of access and archiving, control or processing activities etc.
- **Structural metadata** is concerned with recording of relationships that holds compound digital objects together.

- **Semantics** refers to the metadata elements that are included in the schema by giving each of them a name and definition. A metadata schema also specifies whether each element is mandatory, optional or conditionally required and whether the element may or may not be repeated.
- **Content rules** indicate how values for metadata elements are selected and represented. For example, semantics of a metadata schema may define the element “author” but the content rules would specify which agents qualify as author (selection) and how an author’s name should be recorded (representation).
- **Syntax** of a metadata schema is concerned with the encoding of metadata elements in machine-readable form. Syntax also specifies the way of transmission, transport and communication of metadata between different systems.

Metadata in Libraries

MARC family

- MARC for almost every countries

CCF

UNIMARC

MIBIS

MARC 21 family

- Bibliographic
- Authority
- Classification
- Holdings
- Community Information

(Last update May 2017)

Generic

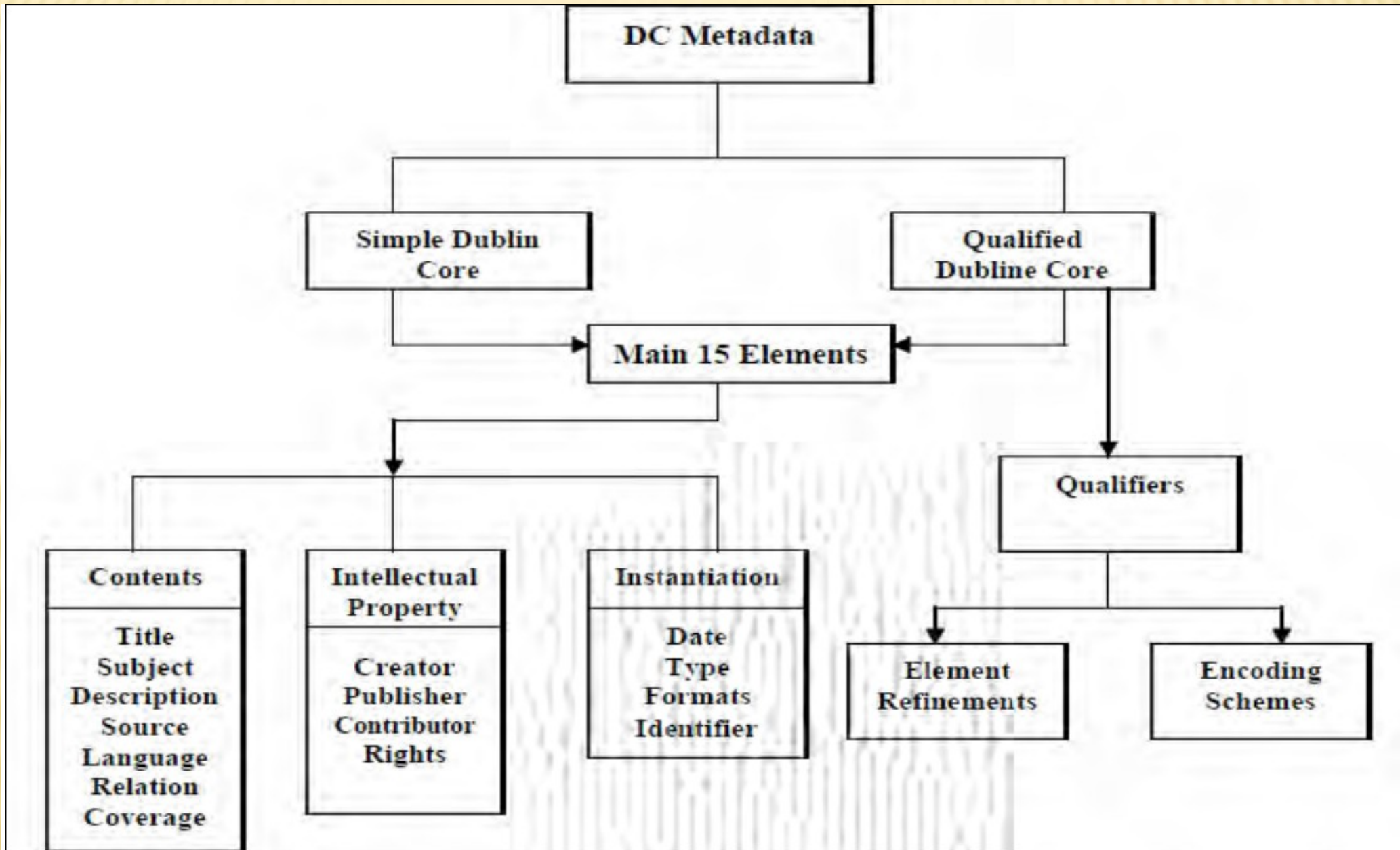
- DUBLIN CORE
- MODS (Metadata Object Description Schema)
- Schema.org

Domain-specific

- Categories for the Description of Works of Art (CDWA)
- VRA Core
- Lightweight Information Describing Objects (LIDO)
- Learning Resource Metadata Initiative (LRMI)
- Cataloguing Cultural Objects (CCO)

And the list may go on.....

- **Intrinsicity:** DC metadata is based on intrinsic data. These data refers to the property that could be identified from the intellectual content and physical form of the resource;
- **Extensibility:** It allows inclusion of extra descriptive materials for specialized requirements;
- **Syntax Independence:** It is applicable to a wide range of disciplines and application program;
- **Optionality:** All the DC elements are optional;
- **Repeatability:** All the DC elements are repeatable. For example, a resource with multiple authorship may use the "Creator" element repeatedly to accommodate all the authors; and
- **Modifiability:** Each element in the Dublin Core has a definition, which is self explanatory. Each element can be modified by an optional qualifier and in such cases the definition of the element is modified by the value of the qualifier.



Simple DC vs Qualified DC

```
<meta name="DC.Subject" content="Resource description">
```

```
<meta name="DC.Subject" scheme="LCSH" content="Resource description">
```

```
<meta name="DC.Subject" scheme="LCSH" content="Library catalogue">
```

```
<meta name="DC.Date" content="20200530">
```

```
<meta name="DC.Date.publication" content="20200530">
```

```
<meta name="DC.Date.publication" scheme="ISO" content="20200530">
```

Subject (Resource)	Predicate (Attribute/property)	Object (Value of attribute)
<p>The University of Burdwan</p> <p>http://www.buruniv.ac.in</p>	dc:title	The University of Burdwan site
	dc:creator	Sarkar, B.
	dc:subject	Academic Institute
	dc:descriptipon	The University established in the year 1960 under UGC Act.....
	dc:publisher	The University of Burdwan
	dc:contributor role=content writer	Central Library, BU
	dc:date	20060101
	dc:format	text/html
	dc:identifier	http://www.buruniv.ac.in
	dc:coverage	Education and Research
dc:rights	The University of Burdwan	


```
<?xml version="1.0"?>
```

```
<rdf:RDF xmlns:rdf = "http://www.w3.org/1999/02/22-rdf-syntax-ns#" 
```

```
xmlns:dc = "http://purl.org/dc/elements/1.1/">
```

```
<rdf:Description about = "http://www.buruniv.ac.in">
```

```
<dc:title>Welcome to the Home page of the University of Burdwan </dc:title>
```

```
<dc:creator> Sarkar, B.</dc:creator>
```

```
<dc:subject>Academic Institute</dc:subject>
```

```
<dc:description>The University of Burdwan , a university under UGC... </dc:description>
```

```
<dc:publisher>The University of Burdwan</dc:publisher>
```

```
<dc:contributor role="content writer"> Central Library, the University of Burdwan  
</dc:contributor>
```

```
<dc:date>20060101</dc:date>
```

```
<dc:format>text/html</dc:format>
```

```
<dc:identifier>"http://www.buruniv.ac.in"</dc:identifier>
```

```
<dc:language>en</dc:language>
```

```
<dc:coverage>Education and Research</dc:coverage>
```

```
<dc:rights> The University of Burdwan </dc:rights>
```

```
</rdf:Description>
```

```
</rdf:RDF>
```

Greenstone Librarian Interface 2.84 Server: v2 Mode: Librarian Collection: cemca (cemca)

File Edit Help

Download Gather Enrich Design Create Format

Collection

- DSpace-Manual.pdf

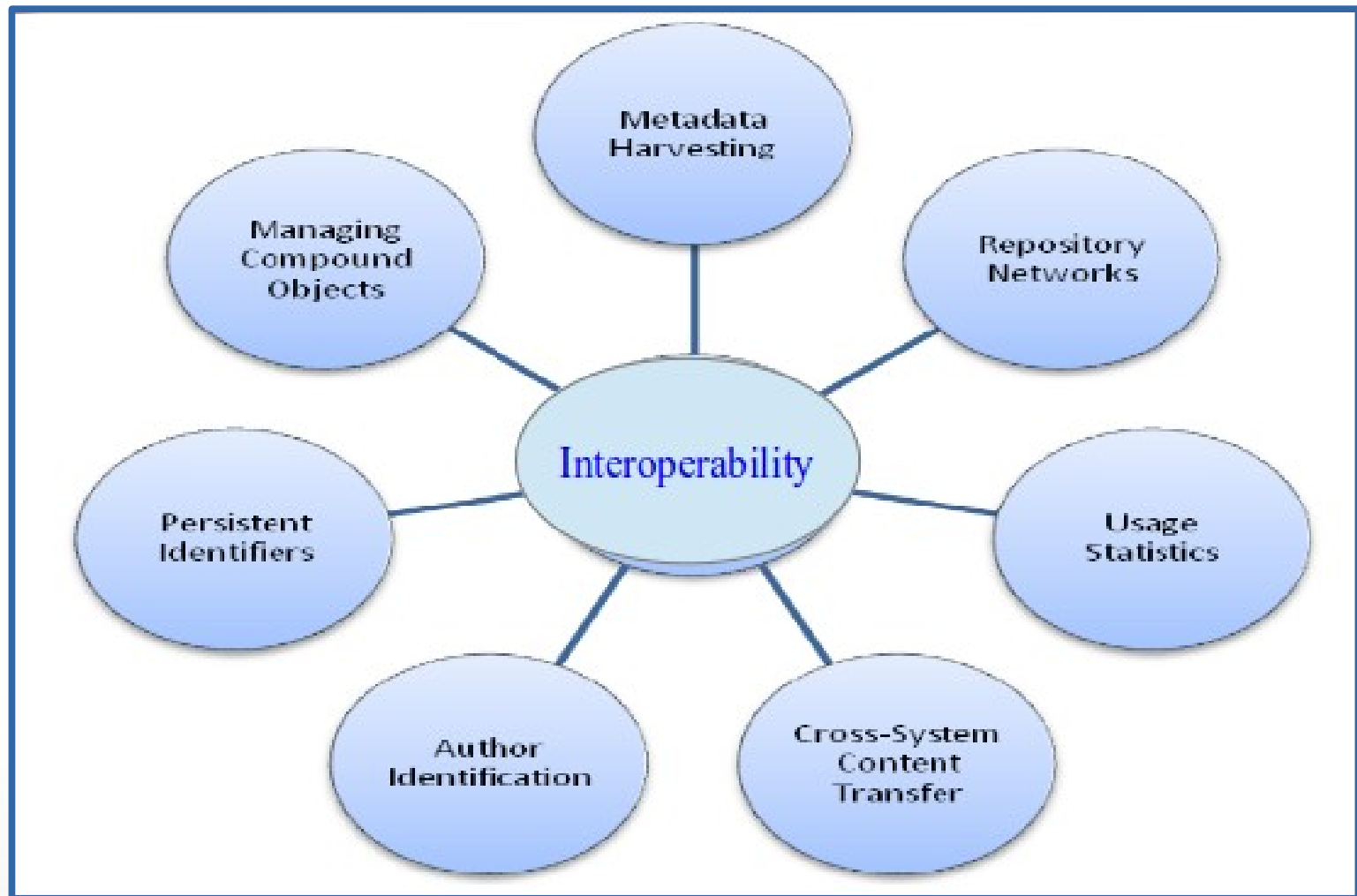
Element	Value
dc.Title	DSpace manual
dc.Creator	MIT
dc.Subject and Keywords	Digital archibe
dc.Subject and Keywords	OA repository
dc.Description	
dc.Publisher	
dc.Contributor	
dc.Date	
dc.Resource Type	

```

<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE DirectoryMetadata SYSTEM
"http://greenstone.org/dtd/DirectoryMetadata/1.0/DirectoryMetadata.dtd">
<DirectoryMetadata>
  <FileSet>
    <FileName>DSpace-Manual\.pdf</FileName>
    <Description>
      <Metadata mode="accumulate" name="dc.Title">DSpace manual</Metadata>
      <Metadata mode="accumulate" name="dc.Creator">MIT</Metadata>
      <Metadata mode="accumulate" name="dc.Subject">Digital archibe</Metadata>
      <Metadata mode="accumulate" name="dc.Subject">OA repository</Metadata>
    </Description>
  </FileSet>
</DirectoryMetadata>

```

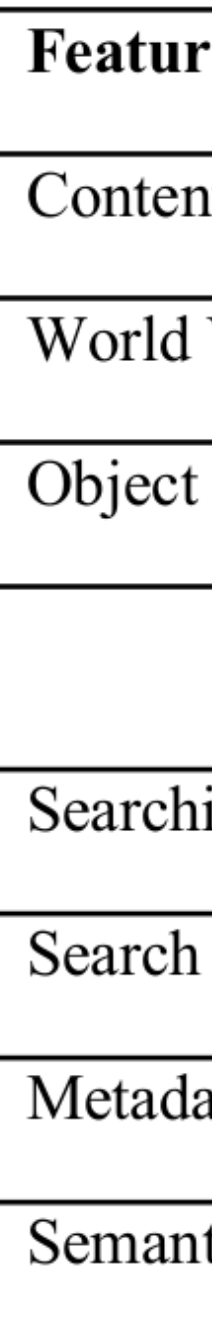
Interoperability standards





Candidate standards

Metadata Harvesting	OAI-PMH
Repository Networks	DRIVER OpenAIRE National repository networks UK RepositoryNet+
Usage Statistics	COUNTER KE Usage Statistics OA-Statistik PIRUS/IRUS-UK SURE
Cross-System Content Transfer	SWORD Open Access Repository Junction CRIS-OAR Metadata Interoperability
Author Identification	AuthorClaim ORCID
Persistent Identifiers	PersID DOI Handle System DataCite
Managing Compound Objects	OAI-ORE



Features	Z39.50	OAI
Content (Objects)	Distributed	Distributed
World View	Bibliographic	Bibliographic
Object Presentation	Data provider	Data provider
Searching is	Distributed	Centralized
Search done by	Data provider	Service provider
Metadata search is	Up to date	Stale
Semantic Mapping	When searching	Metadata delivery

OAI "VERBS"

Identify

ListMetadataFormats

ListSets

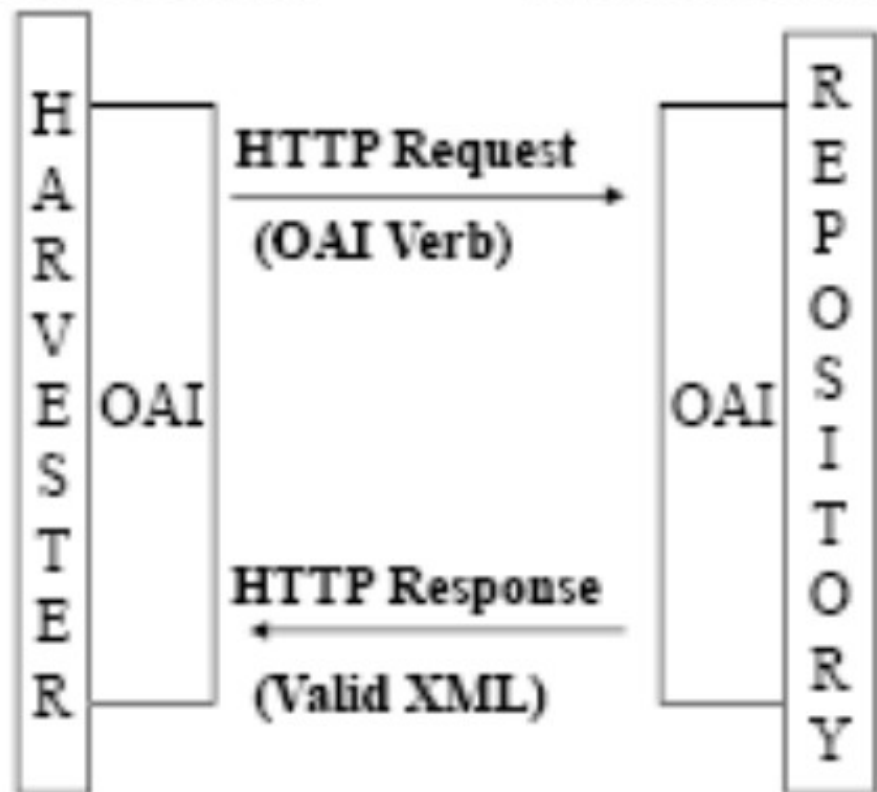
ListIdentifiers

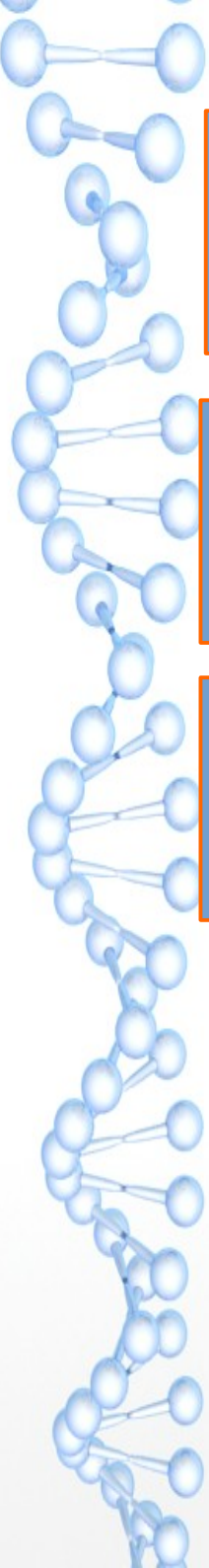
ListRecords

GetRecord

Service Provider

Metadata Provider





Qualified DC

LRMI

Shodhganga

NDL Schema

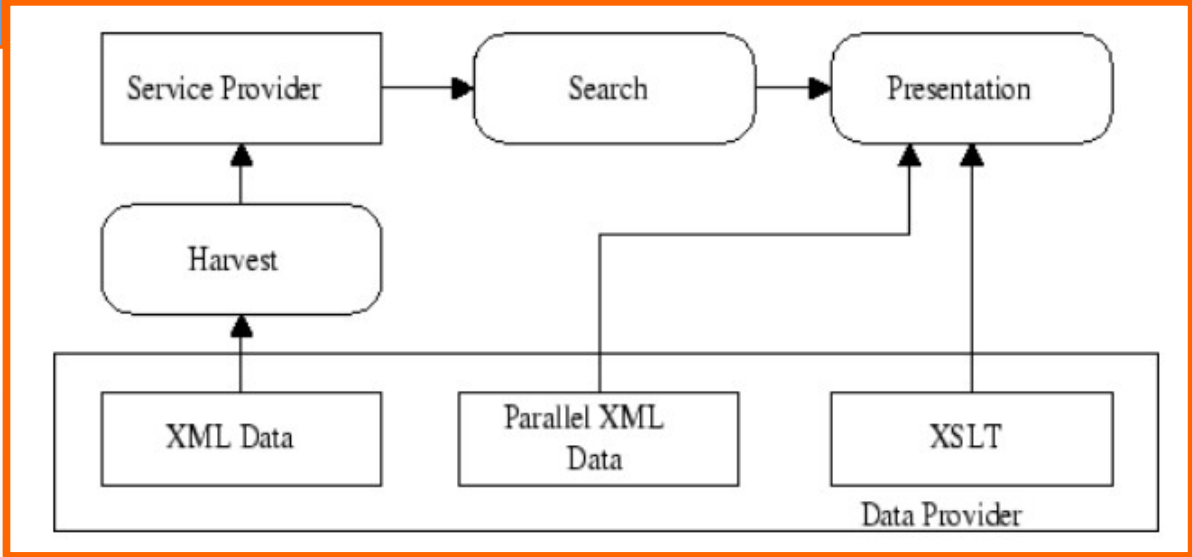
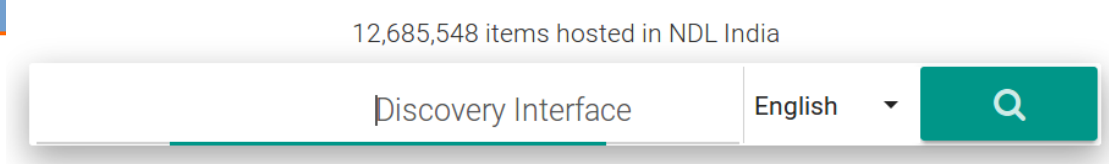


NDL Ingest

Metadata Annotation

Metadata Extraction

Metadata Harvesting





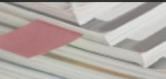
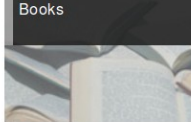
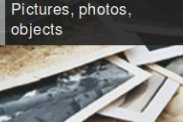
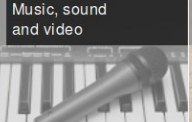
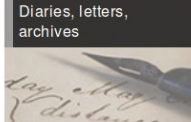
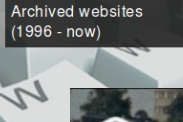
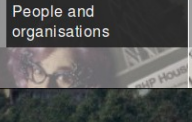
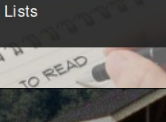
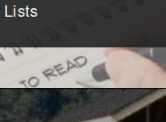
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books, images, historic newspapers, maps, music, archives and more

22,092 searches this hour

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People and organisations 	Lists 	

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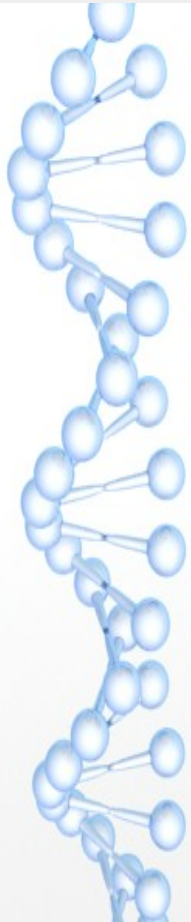
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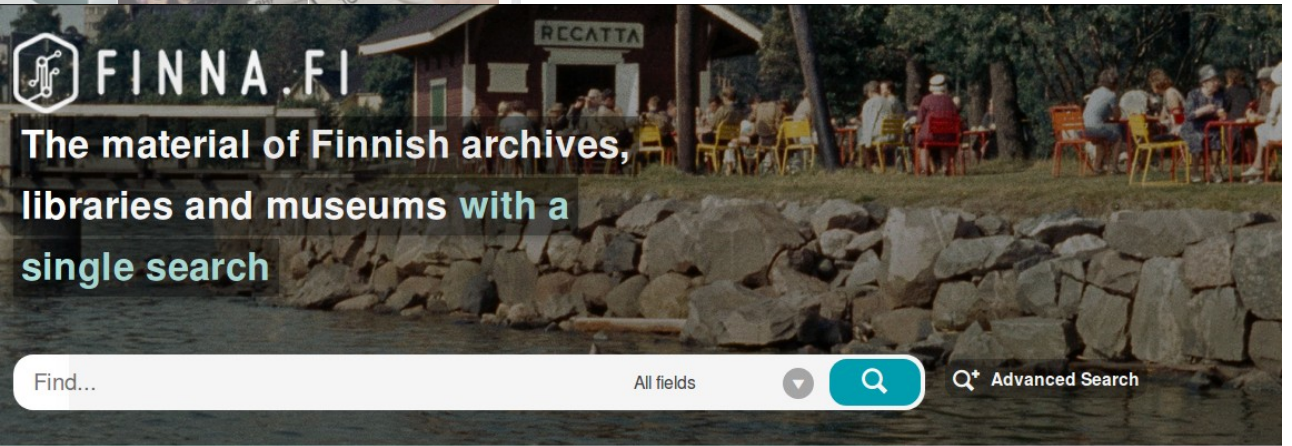
- 9,020 newspaper text corrections today
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- 3,432 comments added this month
- 201 works merged or split this month
- 829 lists this month

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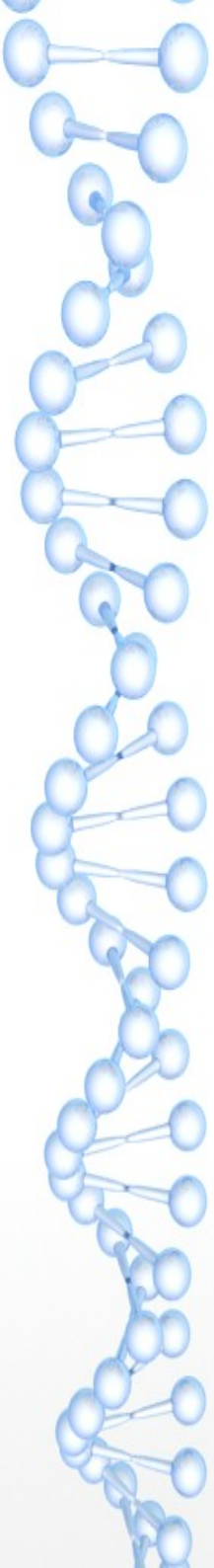
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