Training Programme on DSpace Software
For Library Professionals
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Course Material

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Welcome to this programme;

Universities and higher education institutions around the globe install and maintain digital libraries (DL)/ institutional repositories (IR)/ archives to store and provide online access to a variety of materials produced as part of learning and research. A DL/IR is a digital, open access system established by a university or other institution. Content usually includes working papers (preprints) articles, teaching materials, dissertations and theses, slides, images, etc. DLs/IRs now play an important part in the dissemination of knowledge that were previously inaccessible to the wider community. They support learning, teaching and research in all fields. They promote the concept of open access to scholarly materials.

The process of building DLs/IRs was accelerated by the emergence of Free/Open Source Software (OSS). The following are the popular OSS for DL/IR:

1. DSpace (http://www.dspace.org/) by MIT Libraries & Hp Lab
2. EPrints (http://www.eprints.org/) by University of Southampton
3. Fedora (http://fedora-commons.org/) by Cornell University
4. Greenstone (http://www.greenstone.org/) by University of Waikato

(CONTENTdm, Digital Commons, DigiTool, Open Repository and EQUELLA Repository are the Commercial Software for building DL/IR)

Among the OSS for DL/IR DSpace dominates major share of installations in the world. The website of DSpace provides a list of around 1451 institutions who have live DSpace based system. There may be many other members who did not register their system to be included in the list. In India, there are around 119 registered DSpace installations. DSpace is the software of choice for academic, non-profit, and commercial organizations. It is easy to install completely customizable to fit the needs of any organization. DSpace preserves and enables easy and open access to all types of digital contents. DSpace has an ever-growing community of developers, committed to continuously expanding and improving the software.

The DL/IR built using DSpace has been designed to store materials in an organized,
secure, and searchable archive. It can be used to preserve articles, bibliographic datasets, images, course materials, preprints, working papers, technical reports, conference papers, books, theses, computer programs, visualizations, simulations, multimedia publications, audio files, video files, learning objects and web pages. The contents being saved in the DSpace DL/IR shall be distributed quickly with worldwide visibility, permanently. The other benefits include getting top search results in Google, Increasing accessibility to your work and browsing others' research.

The DSpace is available for free to anyone and can be downloaded from the sourceforge open source software repository. The code is currently licensed under the BSD open source license. This means that any organization can use, modify, and even integrate the code into their commercial application without paying any licensing fees. DSpace software is managed by a smaller group of volunteer developers (called committers) that work together to plan releases and integrate new features and bug fixes submitted by the community. Some of the key features of DSpace are given below;

**Ability to customize or theme the user interface** - You can fully customize the look and feel of your DSpace website so it will integrate seamlessly with your own institution's website and can be more intuitive for your users. DSpace provides two main user interface options: the traditional (JSP-based) interface, and Manakin (XML-based).

**Ability to customize the metadata** - Dublin core is the default metadata format within the DSpace application, however you can add or change any field to customize it for you application. DSpace currently supports any non hierarchical, flat name space. However, it is possible to ingest other hierarchical metadata schemas into DSpace such as MARC and MODS. This requires using tools such as crosswalk and having some technical capability to map the transfer of data.

**Standards compatible** - DSpace complies with many standard protocols for access, ingest, and export. The standards DSpace supports include: OAI-PMH, OAI-ORE, SWORD, WebDAV, OpenSearch, OpenURL, RSS, ATOM

**Ability to configure Browse and Search** - You can decide what fields you would like to
display for browsing, such as author, title, date etc. on your DSpace website. You can also select any metadata fields you would like included in the search interface. All of the text within a given item and metadata associated with the item, are indexed for full text search if desired.

**Ability to use local Authentication mechanisms** - DSpace comes with plugins for most university authentication methods, including: LDAP (and hierarchical LDAP), Shibboleth, X.509, IP-based. In addition, DSpace comes with its own internal authentication method, or can be configured to use multiple authentication methods at once. You can also build your own authentication plugin if you use a custom authentication mechanism.

**Configurable database** - You can choose either PostgreSQL or Oracle for the database where DSpace manages its metadata.

**Ability to choose the default language** - The DSpace web application is available in over twenty languages. So if English is not your local language, you can customize the language which DSpace uses. You can also configure DSpace to support multiple languages, so that the language your user sees is the 'preferred language' set in their web browser.

DSpace comes with an easily configurable web based interface, which any system administrator can install on a single Linux, Mac OS X or Windows box to get started.

**Major DSpace Websites in the world**

http://dspace.mit.edu/ - DSpace at MIT with 64671 Documents

http://www.dspace.cam.ac.uk/ DSpace at Cambridge with 193188 Documents

http://dash.harvard.edu/ DSpace at Harvard University with 12202 Documents

http://dspace.cusat.ac.in/jspui/ at Cochin University of Science and Technology -5307 Documents

http://shodhganga.inflibnet.ac.in/ Indian Digital Theses by Inflibnet -7736 theses

http://nsdl.niscair.res.in/ National Science Digital Library at NISCAIR-578 Documents

http://nopr.niscair.res.in/ NISCAIR online periodical directory- 17261 articles
Installing DSpace

The CD distributed here is available at [http://liblivecd.sourceforge.net/](http://liblivecd.sourceforge.net/). It can be used to install multiple OSS packages of Koha, DSpace and Drupal. You can either install the CD on your desktop/laptop or try the OSS packages without installing. If you intend to install it, make sure to backup your data and ensure partition of disc space to retain existing operating system and your documents. Consult your IT staff for advice and help.

When you want to try DSpace without installing, insert the CD in the CD drive and restart the machine. It will boot from the disk. Finally a desktop with two icons appear. Click on the” ClickME” icon. A text file is displayed with navigation facility. Note the user name and password for all applications. Click on the fist DSpace link. A DSpace website will be displayed. Suppose that this is your DSpace. We can customize, create communities, sub communities, collection and add items to the Collection.

The Concept of Communities

When you design a DSpace for your University, think of the academic structure. It may include various departments;

- Department of Arabic
- Department of Biotechnology
- Department of Botany
- Department of Chemistry
- Department of English
- Department of History
- Department of Library and information Science
- Department of Malayalam
- Department of Philosophy
- Department of Psychology

The Concept of Sub communities

Consider the Department of Biotechnology for its Sub-Communities. We can see that Library, Lab, Faculty Members etc are the possible Sub-Communities.

The Concept of Collection

Collection is the place where we assemble documents. If **Biotechnology** is a Community, **Library** is its Sub-Community and **PhD Theses** is a Collection where we store all PhD theses submitted on Biotechnology. **Question paper** is another Collection
where we store all previous question papers.

Department of Biotechnology

Library | Faculty | Lab
---|---|---
Theses | Dr.P.R Manish Kumar
QP | Prof.Elyas K K

However, there is no rigidity in the construction of Communities/Sub-Communities and Collection. It can be customized as per our requirements. But if we follow a plan for arrangements of documents, it is easy for us to accommodate every document to the appropriate community.

The Creation of Communities

To begin the process of building communities, Go to MyDSpace to log in.
The website shall show the logged in status as shown above on the left side.

When you are in the logged status, click on “Communities and Collections” on the left side. At the right side, you will get an option to Create Top-Level Community.

When you click on it, you will get the worksheet for entering the details of the Community including name.
Create Community

Name:  

Short Description:  

Introductory text (HTML):  

Copyright text (plain text):  

You can enter name including other details to describe the community here. A logo representing the community can also be put here.

Logo: [Upload a logo...]

The created community will look like as shown below. The number [0] show the count of the items in the community

Creating Sub-Communities

Consider the various sections in the library as Sub-Communities; Periodical, Technical, Reference etc. We can create Sub-Communities under this name. But we know that these sections don’t generate information contents. So in this case we can consider creating Sub-Communities in a different manner. eg. Journal Articles, Phd Theses, Question Papers, Syllabus etc.
Suppose we have question papers of different subjects: Sociology, Psychology, English etc we cannot organize them under a single collection under Question Paper Sub-Community. So here we can further create Sub-Communities under Question Paper Sub-Community. eg

**Question Papers : [0]**

Community home page

Sub-communities within this community

- **History** [0]
- **Malayalam** [0]
- **Psychology** [0]
- **Sociology** [0]

We can again create sub-communities if we want. Otherwise we can create Collection under a Sub-Community.
Creating Collections

The creation of Collections is an important step. You have to describe the Collection. Plan well before creating a Collection. Suppose we want to create different Collections in History. Go to History Sub-Community. There is provision for creating Collection at your right hand side.

When you click on Create Collection, we are asked to describe the Collection.

The selection or de-selection determines the feature of the Collection. You must select the first two options. You can try other options later and check how it affects feature of the Collection.
When we click **Next**, the worksheet for providing name and other details of the Collection shall appear.

Name: **MA History Final**

Shown in list on community home page

Description: 

When we finish filling the required information we are directed to select e-person, the staff member having permission to submit items to this Collection. Click on Select E-people.

The system shall display all e-people already registered to DSpace. Add one or two or three e-people and close. The selection will be displayed like this.
Authorization to Submit

Who has permission to submit new items to this collection?

More Help...

You can change this later using the relevant sections of the DSpace admin UI.

Next page you update the details already given. There are many options that you can test one by one.

Edit Collection 123456789/6561

Delete this Collection

Name: MA History Final

Short Description

Introductory text (HTML):

Metadata Format: Qualified Dublin Core

Content being Harvested

- Harvest metadata only.
- Harvest metadata and references
- Harvest metadata and bitstreams

Last Harvest Result

Update
When we click on update, the Collection is ready to accept items.

Now we have created two Collection in the History Sub-Community.
Once you logged in the system, you will see the above buttons for starting a new submission. It is advisable to use the “Home Page” to start submission to the required collections as shown below.

The above picture show the different sub-communities within the main community and collections of these can be seen as shown below.
The faculty has 5 items already in the collection, and a new one can be added.

The following process shows the work flow of dspace system. The process consists of steps *Description of the item, Uploading, Verification, Providing License and finalizing the submission*. It is important that each step must be completed with utmost care since it generates lot of meta data used by the dspace system to describe the article which in turn will help the system for efficient querying and retrieval. Following figures show these steps which are self explanatory.
Submit: Describe this Item

Please check the boxes next to the statements that apply to this submission. [More Help...]

- The item has more than one title, e.g. a translated title
- The item has been published or publicly distributed before
- The item consists of more than one file

NEXT

Submit: Describe this Item

Please fill in the requested information about this submission below. In most browsers, you can use the tab key to move the cursor to the next input box or button, mouse each time. [More Help...]

Enter the names of the authors of the item below.

Last name
e.g. Smith

First name(s) + "J"
e.g. Donald Jr

Authors

Add More

Enter the main title of the item.

Title

Enter the series and number assigned to this item by your community.

Series Name

Report or Paper No.

Add More

Identifiers

Select the type(s) of content of the item. To select more than one value in the list, you may have to hold down the "CTRL" or "SHIFT" key.

Type

Animation
Article
Book
Book chapter
Dataset
Learning Object

Language

N/A

Add More

Previous
Next
Cancel/Save
Provide as much possible key words here.

**Authors**

Last name: Dr. D Mavlothu  
First name(s): Donald Jr

**Title**

Social Media - A relevant tool for tourism and hospitality marketing

**Type**

- Animation
- Article
- Book
- Book chapter
- Dataset
- Learning Object

**Subject Keywords**

- Social Media
- Tourism and Hospitality
- Online travel

**Abstract**

The social networking sites, their contribution to marketing tourism and hospitality. The negative impact phenomena are also analysed.

**Sponsors**

- Article Published in the Indian Journal of Tourism and Hospitality Management Vol.11 No.2 Dec 2010.
and drive corresponding to your item. If you click "Browse…", a new window will appear in which you can locate and select the file.

Document File: [Choose File] No file chosen

File Uploaded Successfully

A file has been uploaded. Please check the details before going to the next step. More Help…

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Click here if this is the wrong file.

| Item consists of more than one file: No |

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<tbody>
<tr>
<td>Abstract</td>
<td>Tourism is an industry which is heavily dependent on marketing. This paper analyses the impact of marketing tourism and hospitality. The negative impact phenomena are also analysed.</td>
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<td>Sponsors</td>
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</tr>
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</table>

Uploaded File: Social Media: A relevant tool for tourism and hospitality marketing.pdf - Adobe PDF (Known)
The Final Stage

Submit: Submission Complete!

Your submission will now go through the workflow process designated for the collection, or if for some reason there is a problem with your submission.

Go to My DSpace
Communities and Collections
Submit another item to the same collection

Conclusion

This document describes the importance of adopting DSpace open source software in libraries. A simple procedure for installing and setting up the system is also discussed. The training program has exhaustively given practical know-how to all the participants to set up such a system for their libraries.

Don’t hesitate to contact us for further queries;
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