



Texas Center for Digital Knowledge  
University of North Texas  
<http://www.txcdk.org>

---

**A Proof-of-Concept Repository for Learning Objects: Supporting the  
Reuse and Repurposing of Redesigned Courses and Their Content**

## **THECB LOR Customizing Profile**

**Hong Xu**  
<hx0008@unt.edu>

**01/28/2008**  
**Version 4**

<b>Version Control</b>				
Specify the <b>Version</b> , <b>Date and Time of Modification</b> of the document, <b>Name of the Modifier</b> , <b>Section</b> of the document where the changed have been made, and <b>Brief Description of the Changes</b> .				
<b>Document Title</b>	THECB LOR Customizing Profile			
<b>Document Filename</b>	CustomizingProfile_01_28_2008.doc			
<b>Original Creation Date</b>	06/22/2007 (TechnologyApplicationProfile1_06_22_2007.doc, THECB Learning Object Repository Technology Application Profile )			
<b>Original Author</b>	Hong Xu			
<b>Version</b>	<b>Date and Time of Modification</b>	<b>Name of Modifier</b>	<b>Section Modified</b>	<b>Brief Description of the Changes</b>
1				Original created
2	07/26/2007	Hong Xu	3	How to submit an unit
3	08/04/2007	Hong Xu	4, 5, 6	Change the search fields, browse fields, simple item records display, and browse layout
4	1/28/2008	Hong Xu	6	Change the file and add 6.5 section

## Table of Contents

1. Introduction .....	2
2. The modification of input-forms.xml .....	2
2.1 Customizing the default pages. ....	2
2.2 Adding another collection pages. ....	2
2.3 Configuring Controlled Vocabularies. ....	2
3. Submit the Unit.....	3
3.1 Change the files name to avoid two files having the same name. ....	3
3.2 Flash cards in FSLO.....	3
4. Index Policy .....	4
4.1 Modify the search fields.....	4
5. Item Metadata Simple Display .....	5
5.1 Change simple item records display .....	5
6. Browse fields and layout .....	6
6.1 Modify the browse fields.....	6
6.2 Change the browse layout.....	7
6.3 Change the communities and collections browse fields.....	7
6.4 Re-Index and Rebuild Dspace .....	7
6.5 Problems and Challenges .....	8

# THECB Learning Object Repository Technology Application Profile

## 1. Introduction

The purpose of this document is to describe THECB Learning Object Repository (LOR) Technology Application Profile which includes how to customize the DSpace interface and indexing, searching, and browsing, and also how to resolve the problems when submitting a flash. THECB LOR uses the DSpace (1.4.2) as its platform. The more detailed information can be found at <http://www.dspace.org/>

## 2. The modification of input-forms.xml

### 2.1 Customizing the default pages.

According to the THECB Learning THECB LOR Application Profile to add or delete metadata elements in the traditional pages in the input-forms.xml file. Before adding a new metadata element, you should make sure the metadata element is a registered metadata element, and if not, please do metadata registry.

### 2.2 Adding another collection pages.

There are two steps to customize the metadata description interface for a special collection.

1. Get the collection's handle number, and then add a sentence between `<form-map>` and `</form-map>`, e.g.

```
<form-map>
  <name-map collection-handle="default" form-name="traditional" />
  <name-map collection-handle="123456789/14" form-name="one" />
</form-map>
```

The sentence `<name-map collection-handle="123456789/14" form-name="one" />` is added.

2. In the “one” form to customize metadata entry for the special collection.

### 2.3 Configuring Controlled Vocabularies.

DSpace 1.4.2 supports two default subject vocabularies. Users can add new vocabularies. The steps are:

1. put the vocabularies files (must be .xml files) under `..dspace/config/controlled-vocabularies/` ;
2. Adding a sentence `<vocabulary>`the name of a special vocabulary file`</vocabulary>` in the subject field, e.g.

```
<field>
  <dc-schema>dc</dc-schema>
  <dc-element>subject</dc-element>
  <dc-qualifier></dc-qualifier>
  <!-- An input-type of twobox MUST be marked as repeatable -->
  <repeatable>true</repeatable>
  <label>Subject Keywords</label>
  <input-type>twobox</input-type>
  <hint> Enter the subject(s) for the content you are submitting. Add one subject entry per
  field, and select ‘Add Another Entry’ for additional entries.</hint>
```

```
<required></required>
<vocabulary>testfortheCb</vocabulary>
</field>
```

3. Setting the parameters in dspace.cfg. The detailed information is available at <http://www.dspace.org/technology/system-docs/configure.html#controlledvocabulary>

4. When ever editing the input-forms.xml, you should stop and restart tomcat.

```
cd tomcat
cd bin
./shutdown.sh
./ startup.sh
```

5. In THECB LOR, for the untied history course the project team developed an facet vocabulary, and use the PHP and MySQL to establish a vocabulary data base (reference to phpMyEdit) which is outside of DSpace, then add a sentence in input-forms.xml as a hint under the vocabulary element. The java sentence is like the following.

```
&lt;a href="#" onClick="javascript:{vocwin =
window.open('http://zed.lis.unt.edu/vocab/tvocab.php?sub=1','vocabul1','location=1,scrollbars=1,menubar
=1,resizable=1,width=750,height=650');vocwin.moveTo(600,200);}"&gt;Add Subject to box 1&lt;/a&gt;
```

### 3. Submit the Unit

#### 3.1 Change the files name to avoid two files having the same name.

When Submitting the Unit 1, there are four lessons and every lesson have blank.htm, banner.htm, and navi.htm files. Dspace can not recognize the files with the same name even they are not in the same folder. So in testing, these files' name must be changed and the index page in every lesson need to be edited because this file includes links to the above three files. Then you may an index page in the Unit folder to access the index pages in different lessons or use the preview page as the index page.

#### 3.2 Flash cards in FSLO.

Every flash cards file goes with a xml file to define it. In the topic there a main htm file to define these files. But in FSLO collection only upload a flash card and the relating xml file can not make the cards work. So a simple htm file is written to define the flash cards and xml files. The sentence is like the followings:

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0 Transitional//EN">
<HTML><HEAD><TITLE>the flash card</TITLE>
<META http-equiv=Content-Language content=en-us>
<META content="MSHTML 6.00.2800.1597" name=GENERATOR>
<META content=FrontPage.Editor.Document name=ProgId>
<META http-equiv=Content-Type content="text/html; charset=windows-1252"></HEAD>
<BODY>
<P>the flash cards</P>
<DIV class=interaction
style="MARGIN-LEFT: auto; WIDTH: 510px; MARGIN-RIGHT: auto">
```

```
<OBJECT title=Flashcards
codeBase=http://download.macromedia.com/pub/shockwave/cabs/flash/swflash.cab#version=7,0,19,0
height=700 width=510 classid=clsid:D27CDB6E-AE6D-11cf-96B8-444553540000><PARAM
NAME="movie" VALUE="flashcards.swf"><PARAM NAME="quality" VALUE="high"><PARAM
NAME="FlashVars" VALUE="&amp;cardsxml=Lesson6.xml">
    <embed src="flashcards.swf" flashvars="&amp;cardsxml=Lesson6.xml"
quality="high" bgcolor="#cccccc" width="510" height="500" align="middle"
allowsriptaccess="sameDomain" type="application/x-shockwave-flash"
pluginspage="http://www.macromedia.com/go/getflashplayer"/></OBJECT></DIV>
<P>&nbsp;</P>
</BODY>
</HTML>
```

## 4. Index Policy

### 4.1 Modify the search fields

1. Three files should be edited so that that search fields can be modified. In the dspace/config/dspace.cfg the change made in THECB LOR is:
 

```
search.index.1 = title:dc.title.*
search.index.2 = subject:dc.subject.*
search.index.3 = type:dc.type
search.index.4 = format:dc.format
search.index.5 = audience:dc.audience.educationLevel
search.index.6 = method:dc.instructionalMethod
search.index.7 = affiliation:dc.contributor.affiliation
```

2. In the dspace-source/jsp/search/advance.jsp you should make changes related to the above elements, e.g.

```
<select name="field1" id="tfield1">
    <option value="ANY" <%= field1.equals("ANY") ? "selected=\"selected\" " : "" %>><fmt:message key="jsp.search.advanced.type.keyword"/></option>
    <option value="title" <%= field1.equals("title") ? "selected=\"selected\" " : "" %>><fmt:message key="jsp.search.advanced.type.title"/></option>
    <option value="subject" <%= field1.equals("subject") ? "selected=\"selected\" " : "" %>><fmt:message key="jsp.search.advanced.type.subject"/></option>
    <option value="type" <%= field1.equals("type") ? "selected=\"selected\" " : "" %>><fmt:message key="jsp.search.advanced.type.type"/></option>
    <option value="format" <%= field1.equals("format") ? "selected=\"selected\" " : "" %>><fmt:message key="jsp.search.advanced.type.format"/></option>
    <option value="audience" <%= field1.equals("audience") ? "selected=\"selected\" " : "" %>><fmt:message key="jsp.search.advanced.type.audience"/></option>
```

```

        <option value="method" <%= field1.equals("method") ?
"selected=\"selected\" : "" %>><fmt:message
key="jsp.search.advanced.type.method"/></option>
        <option value="affiliation" <%= field1.equals("affication") ?
"selected=\"selected\" : "" %>><fmt:message
key="jsp.search.advanced.type.affiliation"/></option>
    </select>

```

3. In the dspace-source/config/language-jpackes/Messages.properties, the label should be changed as following:

```

jsp.search.advanced.type.keyword = Full Text
jsp.search.advanced.type.title = Title
jsp.search.advanced.type.subject = Subject
jsp.search.advanced.type.type = Learning Object Type
jsp.search.advanced.type.format = Media Format
jsp.search.advanced.type.audience = Intended Educational Audience
jsp.search.advanced.type.method = Instructional Method
jsp.search.advanced.type.affiliation = Author Affiliation

```

then re-index and rebuild dspace (quick rebuild)

## 5. Item Metadata Simple Display

### 5.1 Change simple item records display

1. Two files should be modified so that the simple item records display are changed. In dspace/config/dspace.cfg, the following are the changed sentences, and the commendation marker # should be deleted :

```

webui.itemdisplay.default = dc.title, dc.title.alternative, dc.type, lom.classification.taxon,\
    dc.subject, dc.description.abstract, dc.description.tableOfContents, \
    dc.audience.educationLevel, dc.instructionalMethod,
lom.educational.interactivityType, \
    lom.educational.interactivityLevel,
lom.educational.typicalLearningTime, \
    lom.educational.difficulty, dc.provenance, \
    dc.rights.accessRights, dc.date.published, \
    dc.relation.uri(link), dc.identifier.uri(link)

```

2. In the dspace-source/config/language-jpackes/Messages.properties, the following sentences are the changed sentences.

```

metadata.dc.title = Title
metadata.dc.title.alternative = Other Titles
metadata.dc.type = Learning Object Type
metadata.lom.classification.taxon = Discipline and Sub-Discipline

```

metadata.dc.subject = Subjects  
metadata.dc.description.abstract = Summary  
metadata.dc.description.tableOfContents = Learning Object's Contents  
metadata.dc.audience.educationLevel = Intended Educational Audience  
metadata.dc.instructionalMethod = Instructional Method  
metadata.lom.educational.interactivityType = Educational Interactivity Type  
metadata.lom.educational.interactivityLevel = Educational Interactivity Level  
metadata.lom.educational.typicalLearningTime = Typical Learning Time  
metadata.lom.educational.difficulty = Difficulty Level  
metadata.dc.provenance = Creation and Ownership Information  
metadata.dc.rights.accessRights = Access and Use Rights  
metadata.dc.date.published = Date Published  
metadata.dc.relation.uri = IMS Content Package  
metadata.dc.identifier.uri = URI

3. Rebuild Dspace.

## 6. Browse fields and layout

### 6.1 Modify the browse fields

1. In TEHBC LOR the browse fields should be Subjects, Title and Date Published. There are two files need to be edited. In the dspace.cfg file, the edited sentences are the followings (leave the # marker on the second sentence):

```
webui.browse.index.date = dc.date.issued  
# webui.browse.index.author = dc.contributor.*  
webui.browse.index.title = dc.title  
webui.browse.index.subject = dc.subject.*
```

2. In the dspace-source/jsp/layout/navbar.jsp file, you should delete the sentence relating to authors and change the sentence relating to date issue:

```
<tr class="navigationBarItem">  
  <td>  
    .gif" width="16" height="16"/>  
  </td>  
  <td nowrap="nowrap" class="navigationBarItem">  
    <a href="<%= request.getContextPath() %>/browse-date"><fmt:message key="jsp.layout.navbar-default.date"/></a>  
  </td>  
</tr>
```

3. In the dspace-source/config/language-jpackes/Messages.properties, commended the author sentence and change the label relating to date issue:

```
#jsp.layout.navbar-default.authors = Authors
```



jsp.layout.navbar-default.date = Date Published

4. Re-index and Rebuild Dspace.

## 6.2 Change the browse layout

1. In the dspace.cfg file the changed sentence is (delete the commendation marker #):  
webui.itemlist.columns = dc.date.published, dc.title, dc.contributor.affiliation,  
dc.audience.\*, dc.type, dc.format

2. In the dspace-source/config/language-jpackes/Messages.properties file added the relating sentences:

```
itemlist.dc.contributor.affiliation = Author Affiliation  
itemlist.dc.audience.* = Intended Educational Audience  
itemlist.dc.format = Media Format  
itemlist.dc.date.published = Date Published
```

3. You need to rebuild DSpace.

## 6.3 Change the communities and collections browse fields

1. In the dspace-source/jsp/community-home.jsp and collection-home.jsp change the sentences to:

```
<input type="submit" name="submit_titles" value="<fmt:message  
key="jsp.general.titles.button"/>" />&nbsp;<input type="submit"  
name="submit_subjects" value="<fmt:message key="jsp.general.subjects.button"/>"  
>&nbsp;<input type="submit" name="submit_formats" value="<fmt:message  
key="jsp.general.formats.button"/>" />
```

2. In the dspace-source/config/language-jpackes/Messages.properties file changed and added the relating sentences as:

```
#jsp.general.authors.button =Authors  
#jsp.general.date.button =By Date  
jsp.general.formats.button = Media Formats
```

3. Rebuild DSpace.

## 6.4 Re-Index and Rebuild Dspace

1. Re-Index Dspace you need to do is:

```
cd dspace  
cd bin  
./index-all
```

```
2. Rebuild Dspace is:  
cd dspace-1.4.2-source  
ant build_wars  
cp build/*.war ../tomcat.webapps/
```

## 6.5 Problems and Challenges

1. Browse by other fields than default fields. In the DSpace 1.4 version, it is very difficult to add another browsing field besides the default fields. So now the "browse by media" is not work. But in DSpace 1.5 version, it will work.