The DSpace Course - Look and Feel Customisation

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http://hdl.handle.net/10673/74
Downloaded from DSpace Repository, DSpace Institution's institutional repository
Module: Look & Feel Customization

Module overview:
This module gives an overview of the type of customization that can be performed on a DSpace repository user interface. The module will look at the two interfaces that DSpace 1.5 supports, the xmlui and the JSPUI detailing what they are, how they differ and the benefits of each. The module will conclude with a look at some example repository interfaces.

Module objectives:
By the end of this module you will:

- Understand the different user interfaces to the DSpace software
- Understand the different levels of customisation that can be done to the DSpace interface
- Have customised the JSPUI interface of DSpace

Note
For the practical exercise, please refer to your sheet ‘Local instructions’ for details of the following:

- What the URL of your DSpace installation is
- How to open a terminal window
- The location of [dspace] and [dspace-src] directories
- How to rebuild DSpace using mvn and ant
The DSpace Interface

- There are two interfaces to DSpace 1.5
  - The JSPUI (Java Server Pages)
  - The XMLUI (Manakin Framework)
The JSPUI

The JSPUI is the standard interface for DSpace allowing fast creation of dynamic web content.

The JSPUI interface is implemented using:
- Java Servlets which handle the business logic
- JavaServer Pages (JSPs) which produce the HTML

The source code for the JSP webapp is located either:

[dspace-src]/dspace-jspui/dspace-jspui-webapp/src/main/webapp
If the full source was downloaded

[dspace-src]/dspace/target/dspace-[version].dir/webapps/dspace-jspui-webapp/
If the default release was downloaded after the first build

The JSPUI

The JSPUI interface is implemented using Java Servlets which handle the business logic, and JavaServer Pages (JSPs) which produce the HTML pages sent to an end-user. Since the JSPs are much closer to HTML than Java code, altering the look and feel of DSpace is relatively easy.

[DSpace url]/jspui
The JSPUI

To make it even easier, DSpace allows you to 'override' the JSPs included in the source distribution with modified versions, that are stored in a separate place, so when it comes to updating your site with a new DSpace release, your modified versions will not be overwritten. It should be possible to dramatically change the look of DSpace to suit your organization by just changing the CSS style file and the site 'skin' or 'layout' JSPs in jsp/layout; if possible, it is recommended you limit local customizations to these files to make future upgrades easier.
Customising the Stylesheet

- Fonts, colours and formatting in DSpace can be easily changed using the stylesheet

  ![Snippet of styles.css.jsp]

- When editing the stylesheet copy the local version to:
  
  \[\text{[dspace-src]/dspace/modules/jspui/src/main/webapp/styles.css.jsp}\]

Customising the Stylesheet

Heavy use is made of a style sheet, styles.css.jsp. If you make edits, copy the local version to [dspace-source]/dspace/modules/jspui/src/main/webapp/styles.css.jsp, and it will be used automatically in preference to the default, as described above.

Fonts and colours can be easily changed using the stylesheet. The stylesheet is a JSP so that the user's browser version can be detected and the stylesheet tweaked accordingly.
Editing the Stylesheet

- Tags within the stylesheet relate to various elements in the JSPUI
- By changing these tags, fonts, colours and formatting can be modified

```html
BODY { font-family: "verdana", Arial, Helvetica;
font-size: 10pt;
font-style: normal;
color: #000000;
background: #ffffff;
margin: 0;
padding: 0;
}
```

- Once this file has been modified DSpace will need to be re-packaged
  ```
  cd [dspace-src]/dspace
  mvn package
  ```
- Then DSpace will need to be redeployed
  ```
  cd [dspace-src]/dspace/target/[version]/dspace-[version].build.dir
  ant -Dconfig=[dspace]/config/dspace.cfg update
  ```
- So let’s see an example on the DSpace LiveCD

Editing the Stylesheet
Page Structure

The 'layout' of each page, that is, the top and bottom banners and the navigation bar, are determined by the JSPs /layout/header-*-jsp and /layout/footer-*-jsp. You can provide modified versions of these (in [dspace-source]/dspace/modules/jspui/src/main/webapp/layout), or define more styles and apply them to pages by using the "style" attribute of the dspace:layout tag.
Customising a JSP

More advanced customisation can be done by editing the JSPs

Editing layout/header-default.jsp to modify the DSpace logo

Once this file has been modified DSpace will need to be re-packaged

```
cd [dspace-src]/dspace
mvn package
```

Then DSpace will need to be redeployed

```
cd [dspace-src]/dspace/target/[version]/dspace-[version].build.dir
ant -Dconfig=[dspace]/config/dspace.cfg update
```

So let's see an example on the DSpace LiveCD

Customising the JSP

After you've customized your JSPs, you must rebuild the DSpace Web application. If you haven't already built and installed it, follow the install directions. Otherwise, follow the steps below:

- Rebuild the DSpace installation package by running the following command from your [dspace-source]/dspace/ directory:
  
  ```
  mvn package
  ```

- Re-install the DSpace WAR(s) to [dspace]/webapps by running the following command from your [dspace-source]/dspace/target/dspace-[version].dir directory:
  
  ```
  ant -Dconfig=[dspace]/config/dspace.cfg update
  ```

- Depending on your setup with Tomcat, you may also need to do the following:
  
  o Shut down Tomcat, and delete any existing [tomcat]/webapps/dspace files
  o Copy the new .war file(s) to the Tomcat webapps directory:
  o Restart Tomcat

When you restart the web server you should see your customized JSPs.
Types of Customisation - Simple

- Simple Customisation to the JSPUI involves:
  - Basic changes to the page elements
  - Changes to the stylesheet

- Advantages:
  - Quick to implement
  - Simple to complete  (only a basic understanding of CSS/HTML is required)

- Disadvantages:
  - Only very basic changes to the look and feel can be completed
  - DSpace look & feel does not very greatly from the ‘out of the box’ installation
Types of Customisation - Advanced

- Advanced Customisation to the JSPUI involves
  - JSPUI Interface - Editing Java Server Pages (JSPs) etc...
  - Changes to the stylesheet

- Advantages:
  - Advanced changes to the look and feel can be achieved
  - DSpace can be branded to match the organisational corporate scheme

- Disadvantages:
  - Changes can be time consuming
  - Changes require knowledge of additional programming languages (Java/Java Server)
Advanced Customisation - JSPUI

Aberystwyth University Repository

Advanced Customisation - JSPUI

York University Repository
The XMLUI

XMLUI – [dspace.url/xmlui]

- XMLUI is a new front end for DSpace
- Based on Apache Cocoon Framework

**Why? Four Design Goals**
- allowing each community and collection represented in DSpace to maintain a distinct look and feel.
- to increase support for internationalization in Dspace
- to separate the business logic from stylistic controls, increasing ease of adaptability.
- to provide an alternative interface to the current JSP based implementation, requiring no changes to the core of Dspace (including the database), while specifically enabling both user interfaces to operate simultaneously.

- Additional Information on Manakin can be found at:
  - http://di.tamu.edu/projects/xmlui

The XMLUI

The Manakin user interface is composed of two distinct components: aspects and themes. Manakin aspects are like extensions or plugins for Manakin; they are interactive components that modify existing features or provide new features for the digital repository. Manakin themes stylize the look-and-feel of the repository, community, or collection.

The repository administrator is able to define which aspects and themes are installed for the particular repository by editing the [dspace]/config/xmlui.xconf configuration file. The xmlui.xconf file consists of two major sections: Aspects and Themes.
Advanced Customisation - XMLUI

Texas A&M Repository

Communities in the Repository

- College of Agriculture and Life Sciences
  - Department of Animal Sciences
  - Department of Entomology
  - Department of Plant Sciences
  - Department of Soil and Environmental Sciences

- College of Engineering
  - Department of Aerospace Engineering
  - Department of Mechanical Engineering
  - Department of Electrical and Computer Engineering

- College of Liberal Arts
  - Department of Communication
  - Department of English

- College of Sciences
  - Department of Biology

- College of Science
  - School of Earth Sciences

- College of Architecture
  - Department of Architecture

- College of Business
  - Department of Business Administration

- College of Education
  - Department of Education

- College of Engineering
  - Department of Electrical Engineering

- College of Health Sciences and Human Services
  - Department of Health and Human Services

- College of Humanities and Social Sciences
  - Department of History

- College of Information Science and Technology
  - Department of Information Systems

- College of Liberal Arts
  - Department of Philosophy

- College of Natural Resources
  - Department of Environmental Science

- College of Pharmacy
  - Department of Pharmacy

- College of Veterinary Medicine
  - Department of Veterinary Medicine

- Graduate School
  - Department of Graduate Studies

- Office of Undergraduate Research
  - Research & Innovation

- Programs, Centers, and Institutes
  - Energy Systems Laboratory

Page 13 of 18
Practical: Modifying the DSpace Stylesheet

1) The first step is to move the stylesheet to the local changes directory

   \texttt{cp} \\
   \texttt{[dspace-src]/dspace-jspui/dspace-jspui-} \\
   \texttt{webapp/src/main/webapp/styles.css.jsp [dspace-} \\
   \texttt{src]/dspace/modules/dspace-jspui/src/main/webapp/}

2) Open the stylesheet using gedit or vim

   \texttt{cd} \\
   \texttt{[dspace-src]/dspace/modules/dspace-jspui/src/main/webapp/} \\
   \texttt{gedit styles.css.jsp}

We’ll edit the DSpace homepage to change the colour of the grey tables.

These are part of the css class oddRowEvenCol

\begin{verbatim}
<td class="oddRowEvenCol">
  \<h3\><fmt:message key="jsp.home.search1"/>\</h3\>
  \<p\><label for="query"><fmt:message key="jsp.home.search2"/>\</label\></p>
  \<input type="text" name="query" size="10" id="query" /\><input> \end{verbatim}
3) Locate the class .oddRowEvenCol in the styles.css.jsp stylesheet

4) Edit the line which defines the colour of the css element: background: #eeeeee;

5) Change the hex code to #8FD8D8; and save and exit gedit

6) DSpace will need to be repackaged:

   cd [dspace-src]\dspace
   mvn package

7) Then DSpace will need to be redeployed:

   cd [dspace-src]\dspace\target[version]\dspace-[version].build.dir
   Ant -Dconfig=[dspace]\config\dspace.cfg update

8) Finally, tomcat will need to be restarted

   sudo /etc/init.d/tomcat5.5 restart

9) Browsing to your DSpace URL should see the colors modified on the home page.
   http://localhost:8080/jspui
Practical: Customising the DSpace Stylesheet

1) The first step is to move the layout directory to the local changes directory

```
```

2) Open the header-default.jsp using gedit or vim

```
cd [dspace-src]/dspace/modules/dspace-jspui/src/main/webapp/layout
gedit header-default.jsp
```

We’ll edit the DSpace logo and change it to the HP-MIT logo

3) Locate the image path dspace-blue.gif in the header-default.jsp file
4) Edit the line which defines this image name from dspace-blue.gif to hp-mit.gif. Also change the width and height to the new image dimensions.

   Width=”150”
   Height=”82”

5) request.getContextPath() %>/image/hp-mit.gif" alt="
   <fmt:message key="jsp.layout.header-default.alt"/>
   " width="150" height="82"

6) DSpace will need to be repackaged:

   cd [dspace-src]\dspace
   mvn package

7) Then DSpace will need to be redeployed:

   cd [dspace-src]\dspace\target\[version]\dspace-[version].build.dir
   Ant -Dconfig=[dspace]\config\dspace.cfg update

8) Finally, tomcat will need to be restarted

   sudo /etc/init.d/tomcat5.5 restart

9) Browsing to your DSpace URL should see the colours modified on the home page.

   http://localhost:8080/jspui
Credits

- These notes have been produced by:
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