

Greenstone 3

Interface Transformations Library: Basic Documentation

1. Introduction

Greenstone 3 has the flexibility of using XSLT to display the web interface using transformations. It is a great tool for customizing the way each page should appear and for selecting the data that needs to be displayed. However it is sometimes quite difficult to understand what to change in an interface in order to customize the final result to our needs if we are not XSLT experts.

With the aim of simplifying this process, we have added another layer of abstraction to the XSLT files doing the transformations. In other words, we have added a library file containing the XSLT code for the most commonly used elements, and this code is made available in each transformation .xsl file with new elements called GS-Lib statements.

We have tried to use this technique to allow simplification of each transformation file so that they will become similar to HTML documents, thereby allowing more people to understand them.

2. What is a GS-Lib statement?

This is a new pseudo language that has been introduced in order to hide some XSLT code from the transformation pages. The result is simpler-to-read transformation pages, since the most complex code is now stored in another file that should only be edited by advanced users.

A GS-Lib statement will look like this:

```
<gslib:collectionLinkWithImage/>
```

When expanded this GS-Lib statement will become:

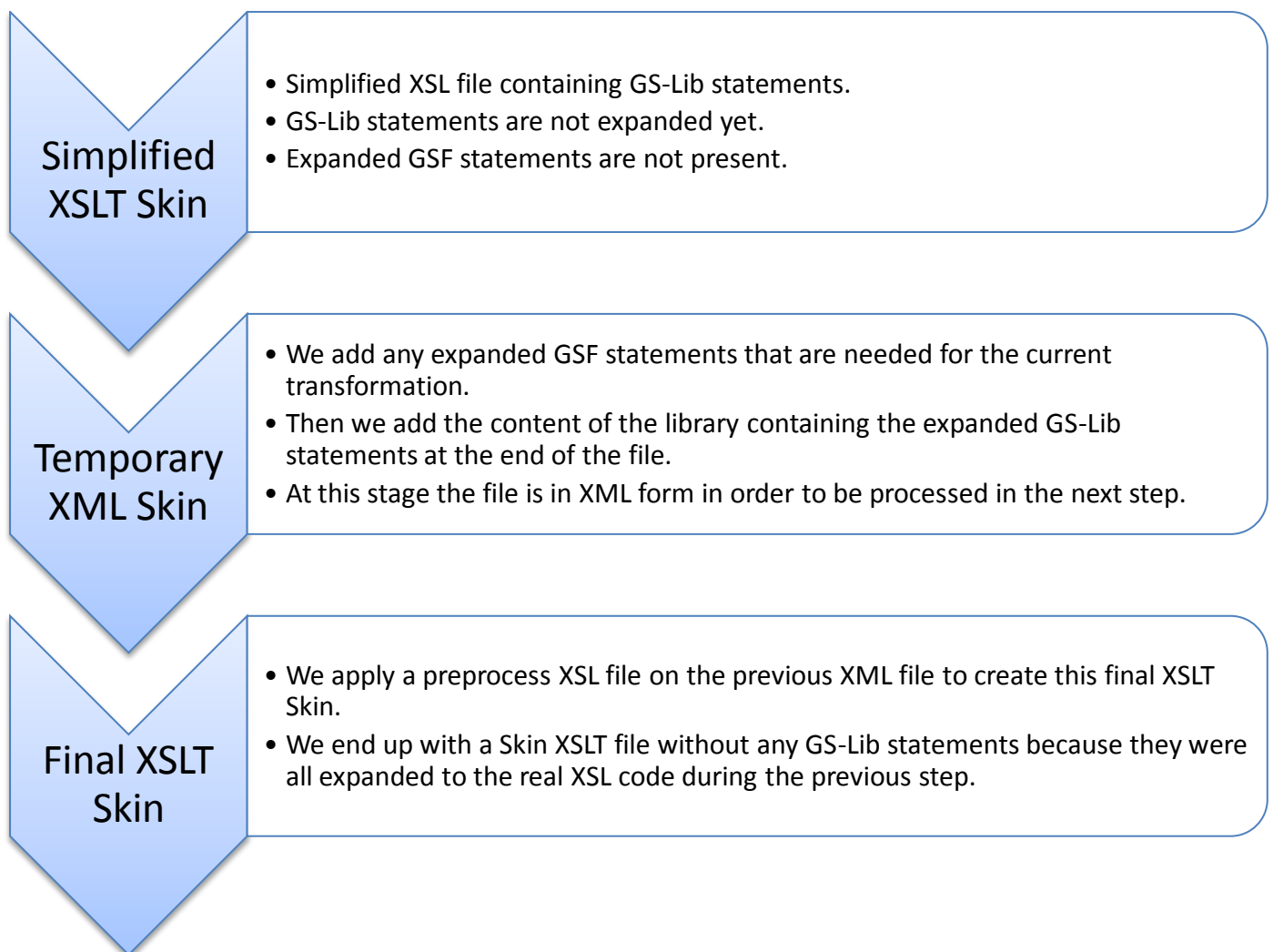
```
<xsl:choose>
  <xsl:when test="displayItem[@name='icon']">
    <a href="{ $library_name }?a=p&sa=about&c={ @name }">
      <img>
        <xsl:attribute name="src">
          <xsl:value-of
select="metadataList/metadata[@name='httpPath']"/>/images/<xsl:value-of
select="displayItem[@name='icon']"/>
        </xsl:attribute>
        <xsl:attribute name="alt">
          <xsl:value-of select="displayItem[@name='name']"/>
        </xsl:attribute>
      </img>
    </a>
  </xsl:when>
```

```

<xsl:otherwise>
  <a class="noimage"
href="{ $library_name }?a=p&sa=about&c={@name}">
  <xsl:value-of select="displayItem[@name='name']"/>
  </a>
</xsl:otherwise>
</xsl:choose>

```

Technically, the transformation page (Skin) is pre-processed before being used to transform the XML data coming from the Message Router to a final HTML page. The GS-Lib statements present in the earlier stages are expanded to real XSLT. A basic explanation is provided in this diagram below:



3. Which files need to be modified to significantly alter a theme?

As explained in the documentation of Greenstone 3, the transformation pages are located in your *Greenstone 3 / web / interface / interface name / transform* folder.

Each interface (skin) is a set of transform xsl files used to generate the final HTML output displayed in the browser. There is a file for each action, for instance *home.xsl* will be used to create the library *home* page, *about.xsl* for a collection *about* page and so on. Those files may contain GS-Lib statements.

In the same directory we find `util.xml` and `library.xml`. They contain the expanded code for the GS-Lib statements used in the transform files.

Two files in this directory play an important role:

util.xml contains all the code provided by Greenstone 3 to expand all GS-Lib statements.

library.xml is the place where you can set the doctype of the HTML pages produced. This is also the place where you can create personalised GS-Lib elements that could be used in any transformation page. The content of `util.xml` is imported into this style sheet.



Please note: `util.xml` and `library.xml` are used only for the current skin; they need to be created for any new skin.

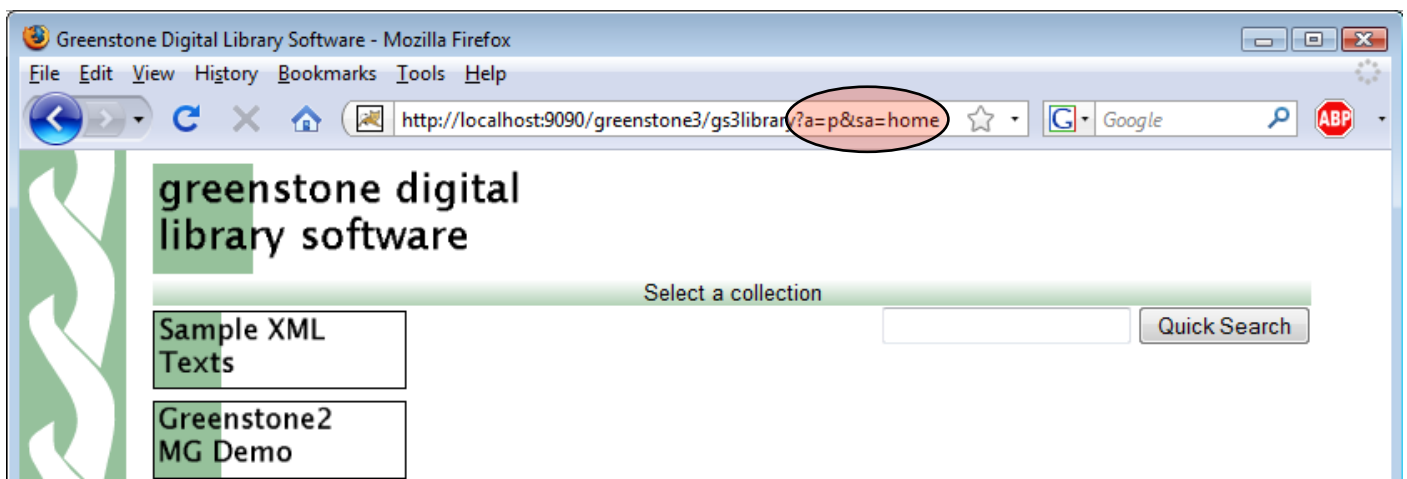
If you wish to create new GS-Lib elements, please have a look at some examples in `util.xml` and then see how to use them in a simple page like `about.xml` for instance.

4. How to quickly change the appearance of an interface

If you are not familiar with Greenstone 3 and you wish to slightly alter the design of the web pages produced, the following information may be a starting point.

What transformation page was used to create the page I wish to change?

First have a look at the URL of the page that needs personalisation. Look at the portion of the URL that comes after the question mark:



Here we have `a=p` (Action = PageAction) and `sa=home` (Sub Action = home).

This is not very helpful yet, but in your `Greenstone 3 / web / interface / interface name` folder you will find a file called **interfaceConfig.xml**. Open it with your favourite text editor. We can see that, according to this file, **home.xml** (located inside the **transformation** folder) was used to generate the page seen in the browser.

With this technique you can now find the transformation file used to generate any web page with Greenstone 3.



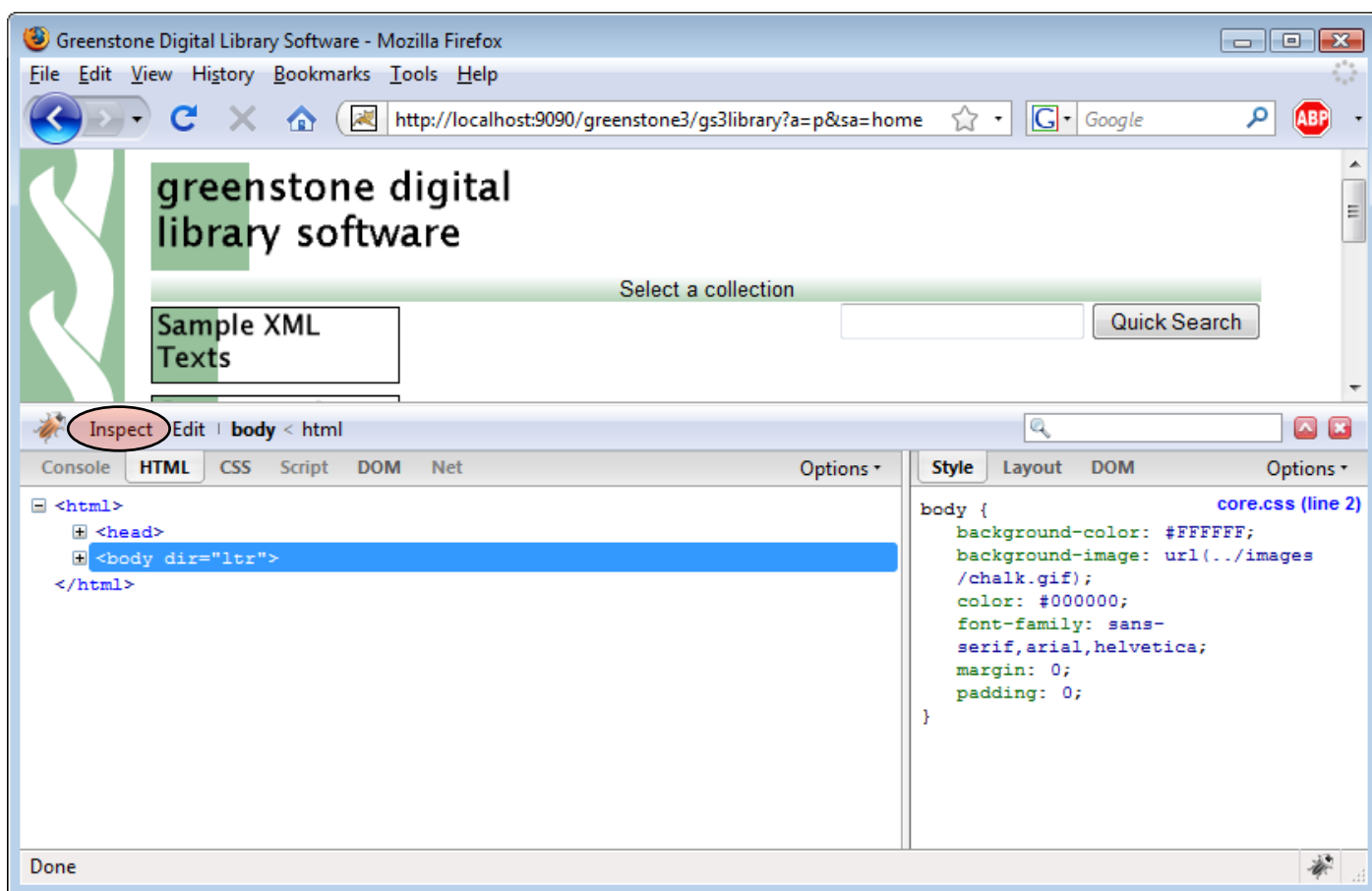
Please note: sometimes, more than one transformation file can be used to generate the final web page; this happens when interface inheritance is used. We will not explain this advanced technique here, so please refer to the official Greenstone 3 documentation for more information on that feature.

Moreover, don't forget that most of the design of all web pages generated by a skin originates from the CSS style sheets located in the **style** folder inside an interface directory (e.g.: in the previous example, the file is: **greenstone3/web/interfaces/default/style/core.css**).

To work even more efficiently, you can use a Mozilla Firefox extension called Firebug. Among other things, it allows one to quickly locate the CSS—and images too—of the JavaScript files used in a specific web page.

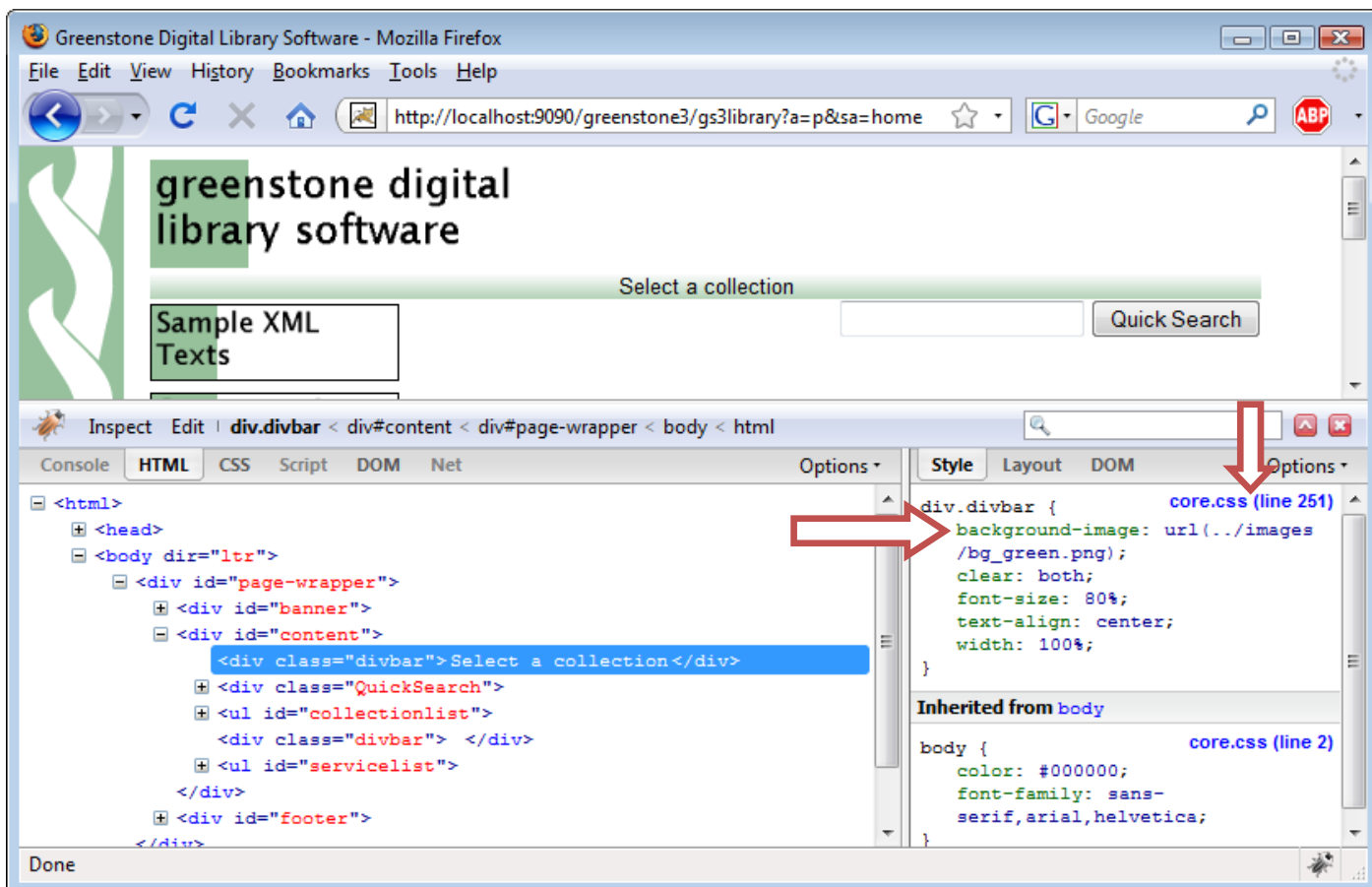
Assuming that Firebug is already installed, we will demonstrate how to take advantage of this tool using our previous example:

First, activate the plugin window by selecting the menu **Tools -> Firebug -> Open Firebug**. You should see something like this:



Now we will try to quickly identify which file is used to create the green background behind the text "Select a collection". To do this, click on the **Inspect** button highlighted on the previous image then click on the green area behind "Select a collection".

You should see the following:



As shown above, the background image used is defined by the CSS style sheet `core.css` at the line 251. This will be where we need to make a change to alter the appearance of those green bars.