Mini-Specification, Using the Djvu Java Applet for the Yearbook Portal

Background

In RUcore we have used the DjVu plugin in many different application scenarios because of its advanced compression technology and high performance. DjVu allows for the distribution on the Internet of very high resolution images of scanned documents, digital documents, and photographs. One of the difficulties with the plugin is that the users have to download the plugin before they can view an image. Although most people realize that the PDF viewer requires a download to the local client, they are less familiar with DjVu and unlikely to bother with the extra effort, especially in those cases in which the end user is not very familiar with PC technology.

Another DjVu option is available to for use with the Yearbook portal – the DjVu java applet. This applet avoids having the user download a plugin and the applet easily supports the highlighting of the text search terms – an important requirement for the Yearbook portal. However, it must also be noted that the applet code is downloaded when first launched on the client workstation. Hence, users will see a bit of a delay on first use. Second and subsequent uses will perform much better.

For the initial launching of the Yearbook portal, we have decided to use the DjVu applet as the primary viewer for the yearbook for three reasons: 1) the PDF for large, color yearbooks is large and incurs long download times, 2) use of the DjVu java applet will avoid the user's having to download a plugin, and 3) the DjVu applet can provide the text initial search term highlighting, an important feature for alumni who will be searching surnames. Given that the implementation requires just a few quick fixes, it is recommended that we make these changes in RUcore R7.2.

Implementation

The DjVu applet has actually been an optional part of our code base for some time, but we have not used it any RUcore applications. (We have provided an option in the Spectator application to use the applet. We are also using it in the Vertigo application - http://www2.scc.rutgers.edu/Vertigo/). As a result, only a few minor changes need to be made. It should be noted that the changes outlined below will only affect the Yearbook portal. Other DjVu applications (e.g. NJEDL) will continue to use the plugin.

The DjVu Applet Disseminator. The DjVu applet can be called with parameters like the following to open with a given search term highlighted:

http://rucore.libraries.rutgers.edu/rutgers-lib/{numeric indicator}/djvu/{numeric indicator}/play/search:search term}

Example 1 (a single search term):

e.g. http://rucore.libraries.rutgers.edu/rutgers-lib/1234/djvu/1/play/search:Madison

Example 2 (multiple adjacent terms):

e.g. http://rucore.libraries.rutgers.edu/rutgers-lib/1234/djvu/1/play/search:James+Wayne+Madison

In the string above, the plus sign represents a single space. (We need to verify that the search will pick up "James   Wayne Madison", i.e. multiple spaces between James and Wayne).

The Yearbook Portal. A custom agent is written that provides a link for the user to pass a phrase search to the DjVu applet. Chad will create a prototype yearbook portal on development so that we can proceed to do extensive testing of the applet.

Extensive Testing

In preliminary testing, we have noticed some variations in how different platforms and browsers work with the DjVu applet. As a result, we will need to test extensively with relevant combinations of XP, Windows 7, and Mac OS in combination with IE, Firefox, Safari, and Chrome.

In particular, there are version issues with the Chrome browser. The current 32-bit version of Chrome gives the following message when you attempt to download Java for Mac: "Chrome does not support Java 7. Java 7 runs only on 64-bit browsers and Chrome is a 32-bit browser. If you download Java 7, you will not be able to run Java content in Chrome and will need to use a 64-bit browser (such as Safari or Firefox) to run Java content within a browser. Additionally, installing Java 7 will disable the ability to use Apple Java 6 on your system." We expect that Chrome will work if users have Java 6 already installed.

In addition, instructions from the Applet home page suggest the following: 1) the applet needs to be security-scanned and may present a question to the user, 2) many of the API features are not available on older java machines. This suggests that older Java run time environments – early 2000's – may have problems. In tests with Java version 6, Chrome appeared to work fine, and 3) code must be tested on all supported java versions. Assuming all testing is successful, we will plan to use the DjVu java applet for the Yearbook portal in RUcore R7.2.

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