Java Application: FontRedate

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First version: Sunday, 16 September 2007
Document revised: Saturday, 13 February 2010

Description

FontRedate is a Java 1.4 application to read internal dates from OpenType, PostScript, or TrueType font files, and to change the file modification dates to match. The file contents are not changed, only the date in the system file directory. Internal font dates may or may not be accurate; many fonts are created and later edited without setting the date properly. Times may differ from what you expect depending upon your time zone, and will usually agree with what the Microsoft Font Properties Extension shows in its Version tab for OTF/TTC/TTF files, plus or minus daylight saving time. Dates can not and will not be changed for read-only files, which is a restriction imposed by the Java run-time, not the operating system.

OpenType fonts (*.OTF), TrueType fonts (*.TTF), and TrueType collections (*.TTC) actually have very similar internal formats and are processed together. All three of these use a single file for each font. PostScript fonts can have multiple files (*.AFM, *.INF, *.PFB, *.PFM, etc). For PostScript, an attempt is made to extract the internal date from *.PFA or *.PFB files, and if that works, then the file directory dates are changed for all files with the same root name and one of the alternate file types. This naming convention does not apply to font files on an Apple Macintosh, so use caution with Mac fonts!

For more information on the internal format of font files, start with the following on-line references:

Microsoft TrueType Font Properties Extension
http://www.microsoft.com/typography/TrueTypeProperty21.mspx

The OpenType Font File
http://www.microsoft.com/typography/otspec/otff.htm
http://www.microsoft.com/typography/otspec/head.htm

The PostScript Font Format
http://partners.adobe.com/public/developer/font/index.html
http://partners.adobe.com/public/developer/opentype/index_font_formats.html

The TrueType Font File

http://developer.apple.com/textfonts/TTRefMan/RM06/Chap6.html
http://developer.apple.com/textfonts/TTRefMan/RM06/Chap6head.html

PostScript fonts have largely been replaced by OpenType fonts. This program makes a limited effort to extract the creation date from PostScript fonts, because the date is a text field with an arbitrary format. The expected format is the UNIX style of "Fri Mar 28 22:03:48 1997" as used by Adobe and most major font foundries. Other numeric styles will also be accepted.

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Installation

You must have the Java run-time environment (JRE) installed on your computer. FontRedate was developed with Java 1.4 and should run on later versions. It may also run on earlier versions, but this has not been tested. You can download the JRE from Oracle (formerly Sun Microsystems):

JRE for end users: http://www.java.com/getjava/
SDK for programmers: http://www.oracle.com/technetwork/java/
IDE for programmers: http://www.netbeans.org/

Once Java is installed, you need to put the program files for FontRedate into a folder (directory) on your hard drive. The name of the folder and the location are your choice, except it is easier if the name does not include spaces. Assume that files will go into a "C:\Java" folder. Then create the folder and unpack the Java *.class files into this folder (if you received the program as a ZIP file). The files look something like this:

ApacheLicense20.txt (12 KB, legal notice)
FontRedate3.class (33 KB, executable program)
FontRedate3.doc (35 KB, this documentation in Microsoft Word format)
FontRedate3.gif (18 KB, sample program image)
FontRedate3.ico (87 KB, icon for Windows)
FontRedate3.jar (19 KB, archive file with same class files inside)
FontRedate3.java (105 KB, source code)

FontRedate3.manifest (1 KB, main class manifest for archive file)
FontRedate3.pdf (76 KB, this documentation in Adobe Acrobat format)
FontRedate3Filter.class (1 KB, helper class for main program)
FontRedate3User.class (1 KB)
GnuPublicLicense3.txt (35 KB, legal notice)
RunJavaPrograms.pdf (60 KB, more notes about running Java)

To run the program on Windows, start a DOS command prompt, which is Start button, Programs, Accessories, Command Prompt on Windows XP/Vista/7. Change to the folder with the program files and run the program with a "java" command:

```
c:
cd \java
java FontRedate3
```

The program name "FontRedate3" must appear exactly as shown; uppercase and lowercase letters are different in Java names. Some systems (Macintosh) will run a main "class" file by clicking on the class file name while viewing a directory in the file browser (Mac Finder). Many systems will run a "jar" file by clicking (or double clicking) on the jar file name (Windows Explorer). The command line is the only guaranteed way of running a Java program. Should you find this program to be popular, you can create a Start menu item or desktop shortcut on Windows XP/Vista/7 with a target of "java.exe FontRedate3" starting in the "C:\Java" folder.

One complication may arise when trying to run this program. Java looks for an environment variable called CLASSPATH. If it finds this variable, then that is a list of folders where it looks for *.class files. It won't look anywhere else, not even in the current directory, unless the path contains "." as one of the choices. The symptom is an error message that says:

```
Exception in thread "main" java.lang.NoClassDefFoundError: FontRedate3
```

To find out if your system has a CLASSPATH variable defined, type the following command in a DOS window:

```
set CLASSPATH
```

To temporarily change the CLASSPATH variable to the current directory, use the following command line:

```
java -cp . FontRedate3
```

To permanently change the CLASSPATH, you must find where it is being set. This is in Control Panel, System, Advanced, Environment Variables on Windows XP/Vista/7.

Removal or Uninstall

To remove this program from your computer, delete the installation files listed above. If the folder that contained the files is now empty, you may also delete the folder ... if you created the folder, of course, not the system. If you created desktop shortcuts or Start menu items, then delete those too. There are no hidden configuration or preference files, and no information is stored in the Windows system registry. You don't need an "uninstall" program.

Graphical Versus Console Application

The Java command line may contain options or file and folder names. If no file or folder names are given on the command line, then this program runs as a graphical or "GUI" application with the usual dialog boxes and windows. See the "-?" option for a help summary:

```
java FontRedate3 -?
```

The command line has more options than are visible in the graphical interface. An option such as -u14 or -u16 is recommended because the default Java font is too small. If file or folder names are given on the command line, then this program runs as a console application without a graphical interface. A generated report is written on standard output, and may be redirected with the ">" or "1>" operators. (Standard error may be redirected with the "2>" operator.) An example command line is:

```
java FontRedate3 -s d:\fonts >report.txt
```

The console application will return an exit status equal to the number of files whose dates have been successfully changed. The graphical interface can be very slow when the output text area gets too big, which will happen if thousands of files are reported.

Restrictions and Limitations

A 32-bit unsigned binary integer can hold OpenType or TrueType dates in seconds from January 1904 to February 2040. FontRedate accepts 33 bits for March 2176, then restricts new file dates to the range from January 1981 until the same time tomorrow. The default action is to interpret all dates in the local time zone, so that time stamps shown by the operating system are more consistent from machine to machine. This is particularly important to people who collect fonts and exchange archive files in RAR or ZIP format. The -g option on the command line will force dates to be in the standard GMT time zone.

Not all font files are correctly structured. Before reporting an error in this program, make sure that the error isn't in the font file. Select the highest message level for more detailed information about a particular file (the -m4 option on the command line, or the graphical "show all files, details" option). For example, if a folder contains both a *.PFA file and a *.PFB file for

the same PostScript font, and the PFA file has a different internal date than the PFB file, then the file dates will be changed twice each time this program is run: once to satisfy the PFA file, then once to satisfy the PFB file.

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file: FontRedate3.doc 2021-10-26