

Java Application: RedatePhotoFile

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Description

RedatePhotoFile is a Java 1.4 application to change file names or the “last modified” date in the system file directory for JPEG photo files, using an embedded date and time found within most JPEG files. The contents of the files are not changed. The oldest date in a JPEG file is usually the original image creation date. A newer date is often from editing, such as rotating a photo to be upright.

On Windows 7 (and possibly the earlier Windows Vista), you have two choices when copying photo files from your digital camera. First is the “import” feature, which sets the correct date and time, but changes files from what’s on the camera by adding possibly empty Exif data. Second is to copy files directly from the camera as a USB mass storage device. This keeps camera data intact but uses the system clock for the modification date. Windows Explorer cleverly shows you the embedded date and time for photo files, so you may not notice that the time stamp is wrong in the file directory. (Use a DIR command in a “Command Prompt” window to see the difference.)

One word of caution: there is no “undo” feature. Once you change a file date or name, the only way to restore the original date or name is to change the file date or name again. Practice on copies of your files before you blindly apply this program to large folders. You may also turn on the “debug mode” option to see what would be changed, without actually making the changes.

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Installation

You must have the Java run-time environment (JRE) installed on your computer. RedatePhotoFile 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/download/>

SDK for programmers: <http://www.oracle.com/java/> or the OpenJDK builds

IDE for programmers: <http://www.eclipse.org/> or <http://www.netbeans.org/>

Once Java is installed, you need to put the program files for RedatePhotoFile 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)
- GnuPublicLicense3.txt (35 KB, legal notice)
- RedatePhotoFile3.class (29 KB, executable program)
- RedatePhotoFile3.doc (33 KB, this documentation in Microsoft Word format)
- RedatePhotoFile3.ico (87 KB, icon for Windows)
- RedatePhotoFile3.jar (17 KB, archive file with same class files inside)
- RedatePhotoFile3.java (86 KB, source code)
- RedatePhotoFile3.manifest (1 KB, main class manifest for archive file)
- RedatePhotoFile3.pdf (73 KB, this documentation in Adobe Acrobat format)
- RedatePhotoFile3.png (22 KB, sample program image)
- RedatePhotoFile3User.class (1 KB, helper class for main program)
- 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 RedatePhotoFile3
```

The program name “RedatePhotoFile3” 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 RedatePhotoFile3” 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: RedatePhotoFile3
```

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 . RedatePhotoFile3
```

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 RedatePhotoFile3 -?
```

The command line has more options than are visible in the graphical interface. An option such as -u16 or -u18 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 RedatePhotoFile3 -s d:\temp >report.txt
```

The console application will return an exit status equal to the number of files that have been successfully changed, -1 for failure, and 0 for unknown. 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

Exif data is not parsed in the correct or official manner. Dates are numeric using the Gregorian calendar (an ISO standard). This program may fail if your locale has a different calendar, either regional or religious. Many digital cameras have the wrong date or time. See:

<http://en.wikipedia.org/wiki/Exif>
<http://en.wikipedia.org/wiki/Calendar>
http://en.wikipedia.org/wiki/ISO_8601

Daylight saving time (DST) may not be properly accounted for when setting times in a period of the year opposite to the current DST rules. Java should have the correct time, but Windows 2000/XP/Vista/7 can sometimes be too helpful in adjusting the clock, and the effect varies with the underlying file system (FAT32, NTFS, etc).

file: RedatePhotoFile3.doc 2022-05-03