

Project 4-2

I/O and NetWork Downloading*

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I. OBJECTIVE

Create a class *WGet* that takes a URL and a filename on the command line, and attempts to retrieve the data at that URL into the specified file. For example, "java WGet http://www.cs.columbia.edu/index.html myfile.html", then you are retrieving the file at CS website and store it into your own file *myfile.html*. It should fail if the filename you are trying to write to is already existing, and fail with an informative message if something goes wrong (i.e. don't just dump a stack trace).

You can assume that the data is binary, i.e. don't worry about whether to use a *Reader*, just use an *InputStream*. You can also assume the file is text only. Just notify it in your code.

II. ALGORITHM

II.1 Input Stream from URL

In order to retrieve the data at that URL into the specified file, it is necessary to get the data from the URL. Then class *URL* and *URLConnection* is used here to found a connection to the web. Then with the method *getInputStream()*, we can download the service data to get ready to the file HTML.

II.2 Output Stream to HTML

To put the data into the file, the file I/O stream is useful. Class *FileOutputStream* can do something to create output stream and create the file with the file type of HTML.

II.3 More details

- With the class *File* and its method *exists()*, we can easily check if there is already a file named that. If there is, then it will fail to write.
- During the operation, several errors will happen. So *try – catch* statement is needed to catch the errors.
- Generally if using *System.out.println()*, the output will print on the screen. So we have to use *System.setOut(out)* to redirect the system output to the file.

*Designed by L^AT_EX

III. RESULTS AND CONCLUSIONS

III.1 Environment

- Windows 8
- NetBeans IDE 7.3

III.2 Screenshots of the result

Use Command Line to compile and execute the program in Figure 1. Then we can see the interface is the same shown in Figure 2 and Figure 3.

III.3 Thoughts

Web programming with Java is useful. In this lab, I consult lots of information on the Internet about it. Now I have some knowledge about web programming with Java. It's very interesting!

```
F:\Course\OS\Project4-2\src>java WGet http://www.tlhiv.org/rast2vec/ tlhiv.html
F:\Course\OS\Project4-2\src>java WGet http://www.tlhiv.org/rast2vec/ tlhiv.html
Don't just dump a stack trace!
```

Figure 1: Screenshots of Execution Interface

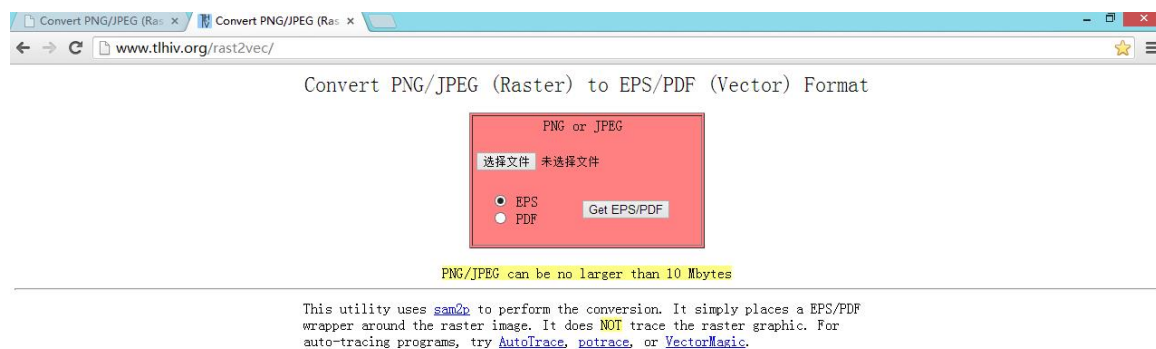


Figure 2: Screenshots of the Original Website

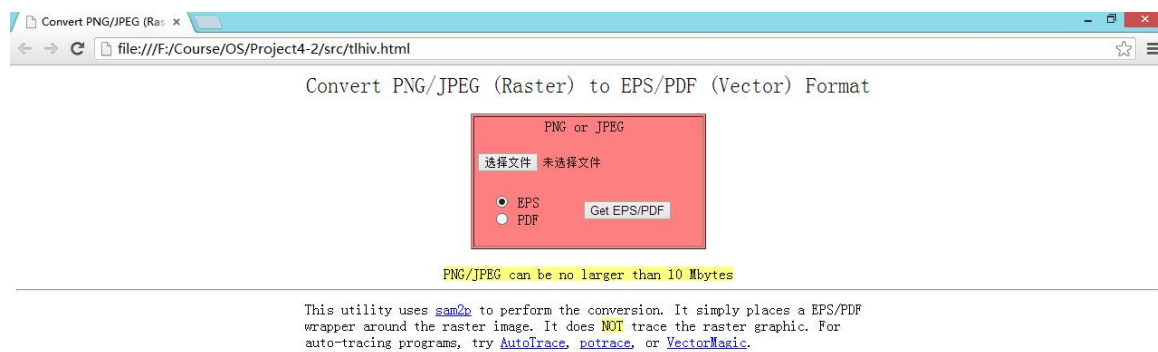


Figure 3: Screenshots of the HTML File