## README

This file conforms to the **VHIST** format developed at the Max-Planck-Institute for Neurological Research with Klaus-Joachim-Zuelch-Laboratories of the Max Planck Society and the Faculty of Medicine of the University of Cologne, Cologne, Germany (MPINF).

VHIST is an open specification, a detailed description and some related tools are available under the terms of an OpenSource license, <a href="http://www.nf.mpg.de/vhist">http://www.nf.mpg.de/vhist</a>.

Please see the **LEGAL NOTICE** below before proceeding.

When you use VHIST at your institute, you can adjust the content of this page by changing the **title.txt** file in the res directory of your VHIST installation.

The general idea behind VHIST is to provide a robust and simple means for documenting a step of a workflow (e.g. quantification of a PET image volume, or (automated) image processing using SPM) by logging all relevant information: which files were used, which files were written, what software package was used with what parameters. VHIST was conceived for usage on top of existing workflows: ideally, you only have to add one line to an existing batch script.

VHIST files can act like a container for arbitrary chunks of information: you can embed log-files, (binary) image and header data. VHIST also conforms to the PDF-1.5 standard and can be used with standard PDF browsers (embedded data appears as embedded files in PDF browsers, each addition to an existing workflow file strictly retains all previous information).

However, particular care was taken to facilitate extraction and processing of data (embedded files, in particular the automatically generated XML summary of a workflow step) in an automated fashion and entirely independent of PDF specifics: the human-readable summaries for each workflow step have only been provided as a convenience. A program written in the Python programming language (xtract.py, 30 lines, can be found at the beginning of this file when opened with a text editor) has been attached to this document: it is sufficient (apart from a suitable Python distribution) to extract all relevant information from this file.

## LEGAL NOTICE

This file may contain legally privileged and confidential information intended solely for scientific use at the Max-Planck-Institute for Neurological Research with Klaus-Joachim-Zuelch-Laboratories of the Max Planck Society and the Faculty of Medicine of the University of Cologne (MPINF). All data is property of MPINF and may not be used in any way without prior written confirmation. If you have received this file in error or if you are in doubt, please notify Email: security@nf.mpg.de.

\$Id: title.txt 2705 2013-04-22 09:17:01Z ahuesgen \$

```
Title: Convert File To Upper Case
     Added: 2013-06-25 11:55:08
     Host: stibbons, User: ahuesgen
     Command: ["python", "toupper.py", "myfile1.txt"]
     === User-defined arguments ==================================
     returnValue: 0
     requiredTime [sec]: {"system": 0.090, "user": 0.000, "elapsed": 0.120}
     cwd: /daten/ahuesgen/projects/vhist/www/examples
     pythonExecutables: ["/usr/bin/python2.6"]
     --- INPUT FILE(S) ------
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     File: sourcecode.zip
     Path: /tmp/tmp3sdz61-pyvhist-2013-06-25_11-55-08/tmpmNCcEO
     Filetype: application/zip
     Description: python sourcecode
     Embedded: yes, MD5: 276cd4593e61eab0de2285083ca45c4e
     Size: 445 Bytes, Last Modified: 2013-06-25 11:55:08
     File: myfile1.txt
     Path: /daten/ahuesgen/projects/vhist/www/examples
     Filetype: text/plain
     Embedded: yes, MD5: 818c0d2661fb7c39a2509eac569ce34a
     Size: 29 Bytes, Last Modified: 2013-06-25 11:19:24
     --- OUTPUT FILE(S) ------
     File: stdout.log
     Path: /tmp/tmp3sdz61-pyvhist-2013-06-25_11-55-08/tmpa7_KQX
     Description: stdout and stderr
     Embedded: yes, MD5: 5be69976627dc66442de86ea963cb8e7
     Size: 64 Bytes, Last Modified: 2013-06-25 11:55:08
     File: myfile1-uppercase.txt
     Path: /daten/ahuesgen/projects/vhist/www/examples
     Filetype: text/plain
     Embedded: yes, MD5: 4c312b2d51a7a98c84f9387e88d73c04
     Size: 29 Bytes, Last Modified: 2013-06-25 11:55:08
     --- SUMMARY FILE -----
     Embedded workflow summary (XML): ws_summary.xml
     Size: 3971 Bytes, MD5: 15abd39e9e06fde4d6a4f37b1de2fb04
```

```
Title: Concatenate Several Files
     Added: 2013-06-25 11:55:34
     Host: stibbons, User: ahuesgen
     Command: ["python", "concatenate.py", "myfilel-uppercase.txt",
     "myfile2-uppercase.txt", "output.txt"]
     === User-defined arguments ==================================
     returnValue: 0
     requiredTime [sec]: {"system": 0.070, "user": 0.020, "elapsed": 0.110}
     cwd: /daten/ahuesgen/projects/vhist/www/examples
     pythonExecutables: ["/usr/bin/python2.6"]
     --- INPUT FILE(S) ------
     File: sourcecode.zip
     Path: /tmp/tmprJ29oS-pyvhist-2013-06-25_11-55-34/tmpdxFLXg
     Filetype: application/zip
     Description: python sourcecode
     Embedded: yes, MD5: eac4be026da0063f23f1da4cf4da9f47
     Size: 446 Bytes, Last Modified: 2013-06-25 11:55:34
     File: myfile1-uppercase.txt
     Path: /daten/ahuesgen/projects/vhist/www/examples
     Filetype: text/plain
     Embedded: yes, MD5: 4c312b2d51a7a98c84f9387e88d73c04
     Size: 29 Bytes, Last Modified: 2013-06-25 11:55:08
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     File: myfile2-uppercase.txt.vhist
     Path: /daten/ahuesgen/projects/vhist/www/examples
     Embedded: yes, MD5: c0ad0573738a1c94a4cc1671b989ddd1
     Size: 29746 Bytes, Last Modified: 2013-06-25 11:55:19
     File: myfile2-uppercase.txt
     Path: /daten/ahuesgen/projects/vhist/www/examples
     Filetype: text/plain
     Embedded: yes, MD5: cd3a67de62165b2d19eeea5666caecb8
     Size: 31 Bytes, Last Modified: 2013-06-25 11:55:18
     --- OUTPUT FILE(S) ------
     File: stdout.log
     Path: /tmp/tmprJ29oS-pyvhist-2013-06-25_11-55-34/tmpXuM6Uj
     Description: stdout and stderr
     Embedded: yes, MD5: d742697eee80aald47e51cdlaacb3d0a
     Size: 100 Bytes, Last Modified: 2013-06-25 11:55:34
     File: output.txt
     Path: /daten/ahuesgen/projects/vhist/www/examples
     Filetype: text/plain
     Embedded: yes, MD5: cd3a67de62165b2d19eeea5666caecb8
     Size: 31 Bytes, Last Modified: 2013-06-25 11:55:34
     --- SUMMARY FILE ------
     Embedded workflow summary (XML): ws_summary.xml
     Size: 5540 Bytes, MD5: 5fe547ef80e855b29350ff16faf1f6b9
```