

README

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This file conforms to the **VHIST** format developed at the Max-Planck-Institute for Neurological Research with Klaus-Joachim-Zielch-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, <http://www.nf.mpg.de/vhist>.

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-Zielch-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: Extract Brain
Added: 2013-06-25 15:11:44
Host: stibbons, **User:** ahuesgen
Command: ["bet", "pat_mmm_mri.nii.gz", "pat_mmm_mri-stripped.nii.gz", "-m", "-v"]
=== User-defined arguments =====
returnValue: 0
requiredTime [sec]: {"system": 0.680, "user": 6.770, "elapsed": 6.990}
cwd: /home/ahuesgen/fsl-test
fslExecutables: ["/daten/share/opt/fsl/fsl-5.0.2/bin/bet",
"/daten/share/opt/fsl/fsl-5.0.2/bin/remove_ext", "/daten/share/opt/fsl/fsl-5.0.2/bin/imtest", "/daten/share/opt/fsl/fsl-5.0.2/bin/bet2"]
FSLDIR: /daten/share/opt/fsl/fsl-5.0.2

--- INPUT FILE(S) -----

File: [pat_mmm_mri.nii.gz](#)
Path: /home/ahuesgen/fsl-test
Embedded: no, **MD5:** 38b896d720b28fa5dd34ec0adfb4b415
Size: 12050569 Bytes, **Last Modified:** 2013-06-25 15:10:16

--- OUTPUT FILE(S) -----

File: [stdout.log](#)
Path: /tmp/tmpwAGfjt-pyvhist-2013-06-25_15-11-37/tmpOtHTAf
Description: stdout and stderr
Embedded: yes, **MD5:** 56c3c0942548b42354d4a873ed520cdf
Size: 281 Bytes, **Last Modified:** 2013-06-25 15:11:44

File: [pat_mmm_mri-stripped_mask.nii.gz](#)
Path: /home/ahuesgen/fsl-test
Embedded: no, **MD5:** ddb0fa340b0b3c2e1ad3c7a56545a726
Size: 63039 Bytes, **Last Modified:** 2013-06-25 15:11:44

File: [pat_mmm_mri-stripped.nii.gz](#)
Path: /home/ahuesgen/fsl-test
Embedded: no, **MD5:** 30a09adbb696932501f8be9697309fc5
Size: 2794677 Bytes, **Last Modified:** 2013-06-25 15:11:43

--- SUMMARY FILE -----

Embedded workflow summary (XML): [ws_summary.xml](#)
Size: 3430 Bytes, **MD5:** 9c73fe3384eb76029a0dca13382fc5d5

Title: Segment Brain
Added: 2013-06-25 15:22:08
Host: stibbons, **User:** ahuesgen
Command: ["fast", "-v", "pat_mmm_mri-stripped.nii.gz"]
=== User-defined arguments =====
returnValue: 0
requiredTime [sec]: {"system": 5.550, "user": 547.740, "elapsed": 553.790}
cwd: /home/ahuesgen/fsl-test
fslExecutables: ["/daten/share/opt/fsl/fsl-5.0.2/bin/fast"]
FSLDIR: /daten/share/opt/fsl/fsl-5.0.2

--- INPUT FILE(S) -----

File: [pat_mmm_mri-stripped.nii.gz](#)
Path: /home/ahuesgen/fsl-test
Embedded: no, **MD5:** 30a09adbb696932501f8be9697309fc5
Size: 2794677 Bytes, **Last Modified:** 2013-06-25 15:11:43

--- OUTPUT FILE(S) -----

File: [stdout.log](#)
Path: /tmp/tmpOVusTP-pyvhist-2013-06-25_15-12-54/tmpqYS5Gs
Description: stdout and stderr
Embedded: yes, **MD5:** afd338db83c8eba088e8c21bde6fa763
Size: 4502 Bytes, **Last Modified:** 2013-06-25 15:22:08

File: [pat_mmm_mri-stripped_mixeltype.nii.gz](#)
Path: /home/ahuesgen/fsl-test
Embedded: no, **MD5:** 44bf4ee7f9dcda99a9e44f102671b625
Size: 296246 Bytes, **Last Modified:** 2013-06-25 15:22:08

File: [pat_mmm_mri-stripped_pve_1.nii.gz](#)
Path: /home/ahuesgen/fsl-test
Embedded: no, **MD5:** f53b8ddd3b36f418a4430b313c5d233
Size: 991891 Bytes, **Last Modified:** 2013-06-25 15:22:05

File: [pat_mmm_mri-stripped_pve_0.nii.gz](#)
Path: /home/ahuesgen/fsl-test
Embedded: no, **MD5:** e2fa865f7b2df146ff71abd6f26dccbf
Size: 539853 Bytes, **Last Modified:** 2013-06-25 15:22:05

File: [pat_mmm_mri-stripped_seg.nii.gz](#)
Path: /home/ahuesgen/fsl-test
Embedded: no, **MD5:** 33aefff6ae215386e25450cb029f741f
Size: 251847 Bytes, **Last Modified:** 2013-06-25 15:22:04

File: [pat_mmm_mri-stripped_pve_2.nii.gz](#)
Path: /home/ahuesgen/fsl-test
Embedded: no, **MD5:** bb329cblcfb7177a57677f2cd15901da
Size: 580462 Bytes, **Last Modified:** 2013-06-25 15:22:06

File: [pat_mmm_mri-stripped_pveseg.nii.gz](#)
Path: /home/ahuesgen/fsl-test
Embedded: no, **MD5:** 2827365314d4eb1fd966bbd4fe70cb28
Size: 248044 Bytes, **Last Modified:** 2013-06-25 15:22:07

--- SUMMARY FILE -----

Embedded workflow summary (XML): [ws_summary.xml](#)
Size: 5258 Bytes, **MD5:** 7b671ac4ec6693ef56579f8adddf91d3

Title: Apply Transformation
Added: 2013-06-25 15:22:10
Host: stibbons, **User:** ahuesgen
Command: ["flirt", "-in", "pat_mmm_mri-stripped_seg.nii.gz", "-ref", "pat_mmm_fmz.nii.gz", "-applyxfm", "-init", "mr->pet.mat", "-out", "segmented_pet.nii.gz", "-v", "-interp", "nearestneighbour"]
=== User-defined arguments =====
returnValue: 0
requiredTime [sec]: {"system": 0.510, "user": 0.500, "elapsed": 1.080}
cwd: /home/ahuesgen/fsl-test
fslExecutables: ["/daten/share/opt/fsl/fsl-5.0.2/bin/flirt"]
FSLDIR: /daten/share/opt/fsl/fsl-5.0.2

--- INPUT FILE(S) -----

File: [pat_mmm_mri-stripped_seg.nii.gz](#)
Path: /home/ahuesgen/fsl-test
Embedded: no, **MD5:** 33aeff6ae215386e25450cb029f741f
Size: 251847 Bytes, **Last Modified:** 2013-06-25 15:22:04

File: [pat_mmm_fmz.nii.gz](#)
Path: /home/ahuesgen/fsl-test
Embedded: no, **MD5:** fc55520878d8dc6a1684daed47df58c4
Size: 2025658 Bytes, **Last Modified:** 2013-06-25 15:10:16

File: [mr->pet.mat.vhist](#)
Path: /home/ahuesgen/fsl-test
Embedded: yes, **MD5:** 7421ca612750384186ac6928565db9f5
Size: 37827 Bytes, **Last Modified:** 2013-06-25 15:12:54

File: [mr->pet.mat](#)
Path: /home/ahuesgen/fsl-test
Embedded: yes, **MD5:** df55b498ae110507314d116476f57271
Size: 187 Bytes, **Last Modified:** 2013-06-25 15:12:54

--- OUTPUT FILE(S) -----

File: [stdout.log](#)
Path: /tmp/tmpMa4kie-pyvhist-2013-06-25_15-22-09/tmpgzIxyN
Description: stdout and stderr
Embedded: yes, **MD5:** 3d5bd1cabb5d5fd96a43f22270078772
Size: 299 Bytes, **Last Modified:** 2013-06-25 15:22:10

File: [segmented_pet.nii.gz](#)
Path: /home/ahuesgen/fsl-test
Embedded: no, **MD5:** f3a9086ac6a577c542064ba3b93ff655
Size: 40951 Bytes, **Last Modified:** 2013-06-25 15:22:10

--- SUMMARY FILE -----

Embedded workflow summary (XML): [ws_summary.xml](#)
Size: 4833 Bytes, **MD5:** 9e5945d574640f073d7603334cfaf23e