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# act-plus freesurfer makefile

# This is where the subject directories live
PROJHOME=/projects2/act-plus/subjects/session1

cwd=$(shell pwd)

# This sets the subject directories to be the ones we selected
SUBJECTS=$(shell cat /projects2/act-plus/uds/good_subjects.txt)
#SUBJECT=$(notdir $(cwd))

# Set open MP number of threads to be 1 so that we can parallize using make.
export OMP_NUM_THREADS=1

# for Freesurfer (running version 5.3)
export SUBJECTS_DIR=/projects2/act-plus/freesurfer
export QA_TOOLS=/usr/local/freesurfer/QAtools_v1.1

# be really careful with paths and variables - two versions of freesurfer
# installed
export FREESURFER_SETUP = /usr/local/freesurfer/stable5_3/SetUpFreeSurfer.sh
export RECON_ALL = /usr/local/freesurfer/stable5_3/bin/recon-all $(RECON_FLAGS)
export TKMEDIT = /usr/local/freesurfer/stable5_3/bin/tkmedit

define usage
@echo Usage:
@echo "make or make interactive          Makes interactive targets"
@echo "make noninteractive                Makes noninteractive targets"
@echo
@echo Noninteractive targets:
@echo "make setup                        Copies source files to this directory"
@echo "make freesurfer                   Runs freesurfer"
@echo
@echo Other useful targets:
@echo "make clean                        Remove everything! Be careful!"
@echo "make mostlyclean                 Remove everything but the good bits."
@echo "make help                         Print this message."
@echo
@echo Variables:
@echo "RECON_FLAGS                       Set to flags to recon-all by default"
@echo "WAVE                              1 2 or 3 to select subjects for
setup"
endef

```

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export SHELL=/bin/bash

.PHONY: qa clean mostlyclean output noninteractive

noninteractive: setup freesurfer

all: noninteractive

output=$(SUBJECTS:%=%/mri/aparc+aseg.mgz) $(SUBJECTS:%=%/mri/brainmask.nii.gz)
freesurfer: $(output)

#recon-all $(RECON_FLAGS) -subjid $$subj -FLAIR $$subj/flair.nii.gz -FLAIRpial
;\

#####

qafiles=$(SUBJECTS: %=QA/%)

qa: $(qafiles)

QA/%: %
    source $$FREESURFER_SETUP ;\
    $(QA_TOOLS)/recon_checker -s $*

#####

# No more Freesurfer mixed in with other stuff

%/mri/aparc+aseg.mgz: $(PROJHOME)/%/memprage/T1.nii.gz
    rm -rf `dirname $@`/IsRunning.*
    source /usr/local/freesurfer/stable5_3/SetUpFreeSurfer.sh ;\
    export SUBJECTS_DIR=$(SUBJECTS_DIR) ;\
    /usr/local/freesurfer/stable5_3/bin/recon-all -i $< -subjid $* -all
;\
    /usr/local/freesurfer/stable5_3/bin/recon-all -s $* -T2 $(PROJHOME)/$*/flair/Flair.nii.gz
-T2pial

#Use Registration matrix to create skull stripped brain (memprage/T1_brain)
from FreeSurfer's skull strip in fsl T1 space

%/mri/brainmask.nii.gz: $(SUBJECTS_DIR)/%/mri/aparc+aseg.mgz
    source /usr/local/freesurfer/stable5_3/SetUpFreeSurfer.sh ;\
    mri_convert $(SUBJECTS_DIR)/$*/mri/brainmask.mgz $@

```

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clean:
    echo rm -rf $(inputdirs)

mostlyclean:
    @echo Here I would delete things that are not necessary after all is
said and done.

output:
    @echo Nothing yet

setup: $(SUBJECTS)

%: $(PROJHOME)/%/memprage/T1.nii.gz
    mkdir -p $@/mri/orig ;\
    cp $^$@/mri/orig ;\
    cd $@/mri/orig ;\
    mri_convert T1.nii.gz 001.mgz

help:
    $(usage)
```