



PRIME 2014 BRISBANE AUSTRALIA

PROJECT:

KEPLER WORKFLOWS FOR MRI IMAGE GENERATION

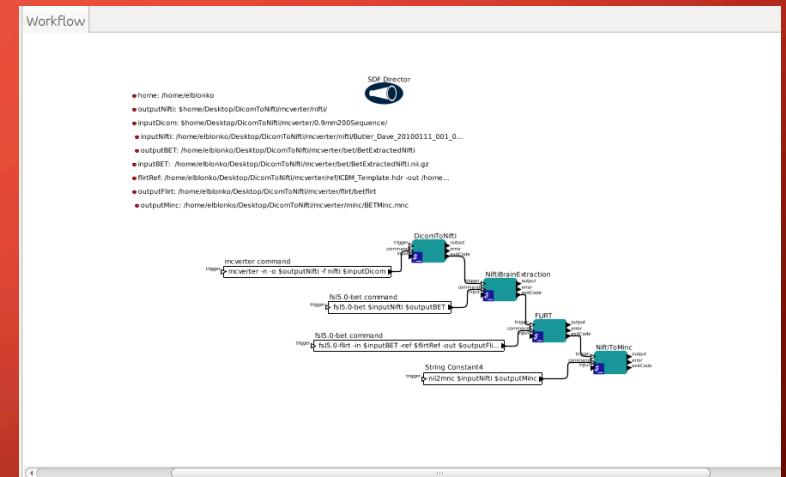
WEEK 6 AUGUST 5TH REPORT

BY MATTHEW SCHWEGLER

FSL WORKFLOWS IN KEPLER

- From DICOM to MINC

- I completed my first Kepler workflow based on FSL.
- The Workflow
 - Starts with a sequence of DICOM images
 - Converts them to NIFTI
 - Extracts the brain from the image sequence via FSL tool BET
 - Runs linear regression of the image via FSL tool FLIRT
 - Converts the final NIFTI image to MINC for display in the Kepler portal



3D IMAGE DISPLAY ACTOR

- Kepler 3D image rendering
 - Now with the image processing workflow functioning I am back to the problem of displaying 3D images within my Kepler workflow
 - Current ImageJ tools within Kepler do not display the Image formats I need and lack the correct plugins for the 3D image display.
 - I will move forward integrating previous code I have written using ImageJ libraries into a Kepler actor.



LOOKING FORWARD

- Setting up an environment for the Nimrod K portal
 - One goal I have prior to leaving Australia is to create an environment capable of running my MRI work on Hoangs Nimrod K portal. This would allow for others to build on my work and provide a good demonstration of the uses of both my workflows and the Nimrod K portal.
- Working Kepler Actor
 - Prior to leaving I need to finish work on my Kepler 3D image display actor to both finish my workflow and have contributed something valuable to the Kepler open source library
- Documentation
 - Lastly I will spend some time going through all the work I have thus far in Australia and create documentation for people who come after me. Both for those looking to use Kepler in tandem with MRI and any potential future PRIME student who might want to extend what I have done.

MELBOURNE



PHILLIP ISLAND



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