FSL TOOLSET BASED KEPLER WORKFLOWS

• Using FSL
  • After a productive meeting I had with Andrew Janke last week I moved my project into MRI manipulation tools.
  • My goal will be to create Kepler based workflows that can perform useful functions on MRI data.
  • These functions include Brain Extraction (BET), Linear Image Registration (FLIRT) just to name a few. Kepler would lend itself well to these types of workflows.
• Using FSL tool BET
  • The first tool I wanted to get running was BET or Brain Extraction tool. This tool is designed to remove the skull and tissue that obscures the brain in MRI Structural data.
  • After getting the FSL tools set up and running I was able to extract the brain from my MRI data via command line tools.

Images to the right depicts a 200 image DICOM sequence visualized in 3D before and after BET extraction.
ROAD BLOCKS & BREAKTHROUGHS

• Roadblocks
  • Stanford Python Script
    • My initial project foundation turned out to be an unusable dead end due to incompatible python code with Kepler. I was able to start over with a better understanding of Keplers capabilities and eventually found Java API's that led to superior image generation.

• Breakthroughs
  • 3D Image Generation
    • Digging through pages of poor ImageJ API documentation lead to my eventual success in using ImageJ in tandem with several 3rd party plugins to generate useful detailed 3D images.

• Seeking out experts
  • Through talking with experts in the field of MRI image analysis I was able to better identify useful tools I could create to aid in MRI image analysis and generation. This is quickly leading to useful Kepler workflows
THE GOLD COAST & SURFERS PARADISE
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