The NA-MIC Programming Environment

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The NA-MIC Kit
NA-MIC Kit Goals

• Software and Methodologies for Medical Image Computing
  – Facilitate Research
  – Promote Interoperability

• Stable, Cross-Platform Run Time Environment
  – Full Set of Core Features
  – Avoid Duplicated Effort

• Flexible Module Architecture
  – Plug-ins should be As Simple As Possible
The NA-MIC Kit
3D Slicer

- An end-user application for image analysis
- An open-source environment for software development
- A software platform that is both easy to use for clinical researchers and easy to extend for programmers
Modules Types

- Built in modules
- Loadable modules
- Scripted modules
- Command line modules

Images courtesy of Jim Miller, Ph.D.
CLI Integration: Hello World Course

Programming course on the mechanism to plug-in an external program into Slicer
Going Further: Extensions

- Individual identity of modules
- Allow users to assemble their own set of tools
- Easy to download compatible extensions
Daemon

slicerget.tcl name > image.nrrd

cat image.nrrd | slicerput.tcl name

Slide courtesy of Steve Pieper, Ph.D.
Batch Processing

http://www.gridwizardenterprise.org/
Parameter Space Exploration

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Image courtesy of Marco Ruiz Ph.D.
Plans for the future

• Slicer 4

• Qt and Numpy

• The Common Toolkit (CTK)
Acknowledgements

National Alliance for Medical Image Computing
NIH U54EB005149

Neuroimage Analysis Center
NIH P41RR013218