

Best Practices for Software Development in the Imaging Community: Users and Developers Unite!

Outline: Scientific meetings are often bursting with the latest findings that advance the overall knowledge of the individual researchers involved in specific research topics. What is under-addressed, however, is the necessary details (infrastructure, techniques, resources, etc.) necessary to promote excellent ideas and advances from one investigator to the remainder of the community. In many cases, such advances are embodied in software applications; and the scientific community is, at times, woefully under-educated in the methods of software development and dissemination. This tutorial session is designed to provide developers and users a baseline understanding of methods and tools available to promote good software development practice, including software engineering and user-base interactions. The faculty includes experts in software dissemination and developers with long standing track records in community software development. The session will include presentations, community dialog and open demo sessions. Topics that will be addressed by all developers include best practices for: software testing, documentation, user communication, open file standards, meaningful error/warning messages, and tools/techniques for quality control/assessment.

For tutorial materials, see http://www.nitrc.org/projects/best_practices

Academic Objectives: The tutorial attendee will receive a state of the art, detailed update on the following topics:

- Methods for open source software development
- Methods for software distribution, including licensing issues
- Techniques for software validation
- Techniques for user interactions (documentation, tutorials, feedback/communication, etc.)
- Resources for finding existing relevant software projects.

Schedule:

Presentations:

Dr. Kennedy - Neuroimaging Informatics Tools and Resources Clearinghouse: NITRC

Dr. Tao - 3D Slicer3 extension modules concept and implementation

Drs. Zhang/Yushkevich - Making others use your software: Lessons learned from ITK-SNAP

Dr. Landman - Challenges of Collaborative Open-Source Development: Lessons learned from the early evolution of the Java Image Science Toolkit

Panel discussion - questions from the audience.

Demo session - live presentations of software development projects.

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