

Development Tools

*Man is a tool-using animal.
Without tools he is nothing,
with tools he is all.*

—Thomas Carlyle

Why?

- Tools can make work easier
- An appropriate tools can do some tasks
 - Faster
 - More reliably
 - More often
 - Don't complain about tedious tasks
- Tools can assist with tasks they can't do by themselves
 - IDE

But...

- Costs versus Benefits
 - Research needed to find and select
 - Effort required to come up to speed
 - Cost/Benefit tradeoff is subtle and long-term
- Tools become obsolete or mutate
- Must adapt workflow to the tools
 - User
 - Group

What We Can Do

- Augment current word-of-mouth approach
 - Publish Information on CASA's Software Engineering Wiki:

<https://safe.nrao.edu/wiki/bin/view/Software/CASA/CASASoftwareEngineering>

- Useful information
 - Links to potentially useful tools
 - Links to articles about tools
 - Write ups looking at tools
 - HowTos and FAQs for using tools.
 - CASA-staff mailing list no substitute for a FAQ.

What We Can Do (cont'd)

- Push for the establishment of an NRAO-wide effort supporting sharing of tool information.
 - Could include resources to handle tool research, administration and support.
 - Institute regular software engineering symposiums and maybe an annual conference (with or without travel).

Tool Types

- Editors/IDEs
 - Emacs
 - Eclipse
- Design Tools
 - UML related
- Testing
 - Frameworks (Cppunit)
 - Coverage Analyzers
 - Valgrind
 - Profilers
 - Gprof
- Code Analysis
- Data Analysis
 - Python/Matplotlib
- Debuggers
 - GDB
- Documentation
 - Doxygen
- Code Formatters
 - astyle
- Home Grown