





A lot of MATLAB programmers!

- Started as an interface to standard FORTRAN libraries for use by students.... but now
 - 1 million MATLAB programmers in 2004, number doubling every 1.5 to 2 years.
 - over 1200 MATLAB/Simulink books
 - used in many sciences and engineering disciplines
- Even more "unofficial" MATLAB programmers including those using free systems such as Octave or SciLab.















Culture Clash

Scientists / Engineers

- Comfortable with informal descriptions and "how to" documentation.
- Don't really care about types and scoping mechanisms, at least when developing small prototypes.
- Appreciate libraries, simple tool support, and interactive development tools.

Programming Language / Compiler Researchers

- Prefer more formal language specifications.
- Prefer well-defined types (even if dynamic) and welldefined scoping and modularization mechanisms.
- Appreciate "harder/deeper/more beautiful" research problems.

Goals of the McLab Project

- Improve the understanding and documentation of the semantics of MATLAB.
- Provide front-end compiler tools suitable for MATLAB and language extensions of MATLAB.
- Provide a flow-analysis framework and a suite of analyses suitable for a wide range of compiler/soft. eng. applications.
- Provide back-ends that enable experimentation with JIT and ahead-of-time compilation.

