Motivation

- Debugging can be tedious and time consuming
- A methodical approach can dramatically reduce debugging time
- Design and implementation benefit from methodical approaches
- Problem solving often relies on intuition and experience
  - This track will try to convey some techniques for developing that intuition, and provide (brief) experience with (or exposure to) useful tools

Problem Areas

- Source code control
- Build control
- Compiling/Linking
- Repeating executions
- Debugging
- Static and dynamic analysis tools
Tools

- Source code control: RCS, CVS
- Build control: make
- Compiling/Linking: compilers and loaders
- Repeating executions: scripts
- Debugging: debuggers
- Static analysis tools: nm, size, file, ldd, dump
- Dynamic analysis tools: ps, top

Commercial tools are also available, and some are invaluable.

One goal of this track is to introduce tools which can be used, both during and following the course. And to provide an idea of the kinds of tools available to help solve problems.

Approaches

- Problem solving methods
  - Scientific method
  - Directed search
- Effective problem reporting

Suggestions

- Any problem can be solved!
  - Well, any CS 342 problem can be solved!
- Analyze, plan, experiment, iterate!
  - This is how that experience is gained, and intuition is developed
- Ask!
  - wu.cs.class.342 newsgroup
  - TA’s and other students, during lab time
  - Professors, via email (levine, cdgill@cs.wustl.edu) or in office hours