Alternative to Arduino IDE: On Linux

- Motivation
- Basic Tools
- Jazzed Tools
- Demo
- Slides will be in Meetings/ARCHIVE at http://TriEmbed.org by Tuesday morning

Why I got Tired of Arduino IDE

- Arduino IDE on Linux generally slow
- GUI & compiler cold starts a real time waster
- GUI editor hard on my body (early carpel tunnel)
- IDE monkeys with source and older versions couldn't get compiler error msg line numbers to match the source view (fixed now)
- Details of what was happening hard to see
- IDE got severe USB indigestion (Linux bug)

Why I got Tired of Arduino IDE 2

GUI weirdness: Don't have too many sketches!
GUI weirdness: How hard is it to remember past sessions?
Semantic distance from IDE to filesystem realities

Basic "Arduino" Tools on Linux

- Explanation: Arduino is a quasi brand name for single board computers using Atmel Atmega/Attiny "AVR family" chips (old days), and more recently, many other kinds of MCU.
- Arduino IDE now supports non-Arduino boards
- GNU and other open source tools for cross-compile, cross-link of AVR code available for a long time. Ditto for cross-dev of ARM code.

Mimicing the IDE

- Arduino IDE invoking gcc and avrdude "behind the scenes" and adds "pre-preprocessing" and other convenience to mask complexity + it provides an editor
- All these things are directly available (including some complexity but also some simplicity)

Jazzed Tools

- Typing in compilation and linking commands by hand gets old fast (mind-numbing command line options!)
- Tim Marston to the rescue: a very well-written makefile: http://ed.am/dev/make/arduino-mk
- But function prototypes not automagically created: must pay attention to declaration order
- Alas: this makefile has problems with latest Arduino IDE "boards.txt" and other things (but I'm working on a patch file)

Jazzed Tools 2

- The makefile invocation gets old!
- Not as clever as it might be
- Solution: a shell script or two
- Bourne/Bash now, Python later

Demos

- Build/program sketch with make command
- Typical write/try/rewrite/retry...
- Lazy alternative
- Ideas for generalized laziness

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