

Features of Five Editors

ed

Overview

- ▶ Ken Thompson, c. 1971
- ▶ original UNIX editor
- ▶ line-oriented
- ▶ used on teletypes
- ▶ minimal output
- ▶ *rich addressing syntax*
- ▶ surprising power that many modern editors lack

Rich addressing

- ▶ `.` (*dot*): current line
- ▶ `n` : line number *n*
- ▶ `m, n`: line range
- ▶ `$`: last line
- ▶ `%`: equivalent to `1, $`
- ▶ `/re/`: find *re* forward
- ▶ `?re?`: find *re* backward
- ▶ `/^main/; /^}/` : *main* function
- ▶ `g/re/p`: *grep*

sam

Overview

- ▶ Rob Pike, c. 1987
- ▶ evolution of ed
- ▶ visual editor
- ▶ more powerful addressing
- ▶ multi-file support
- ▶ *remote file editing*

Remote file editing

- ▶ remote host: command interpreter;
local host: GUI
- ▶ must be installed on both end-points
- ▶ small chunks, not whole file

acme

(or: How I Learned to Stop Worrying And Love Unix)

Overview

- ▶ Rob Pike, c. 1994
- ▶ full-screen editor
- ▶ mouse-oriented
- ▶ few built-in commands
- ▶ *strong Unix integration*
- ▶ *A Tour of Acme:*
<https://research.swtch.com/acme>

Unix integration

- ▶ `cmd`: output in new buffer
- ▶ `<cmd`: output in current buffer
- ▶ `>cmd`: selection as input, output in new buffer
- ▶ `|cmd`: selection as input, output in current buffer

vi

Overview

- ▶ Bill Joy, 1976
- ▶ *visual* interface for ex
- ▶ most popular Unix editor
- ▶ worth learning since it's so widely available
- ▶ *modal editing*

Modal editing

- ▶ normal mode: edit text
- ▶ insert mode: input text
- ▶ more commands, less RSI-inducing
- ▶ combinable commands: edit + motion (**d\$**, **c3w**)
- ▶ some combined commands don't behave "like they should"

Emacs

Overview

- ▶ Richard Stallman, 1976 & 1985
- ▶ 2nd most popular Unix editor
- ▶ ~ 10% C, ~ 90% Lisp
- ▶ extremely customizable
- ▶ *keyboard macros*

Keyboard macros

- ▶ Record keystrokes
- ▶ Replay them
- ▶ Useful when regexes not easy or possible
- ▶ Careful with invariants!

Summary

	Rich addressing	Remote editing	Unix integration	Modal Editing	Keyboard macros
ed	✓		✓	✓	
sam	✓	✓	✓	✓	
acme	✓		✓		
vim	✓	✓	✓	✓	✓
emacs ¹	✓	✓	✓	✓	✓
sublime				✓	✓
atom			Ran out of memory starting it		

¹rich addressing requires evil; modal editing requires evil, god, or xah-fly

Other cool features

- ▶ Multi-file edits (sam, acme, vim, emacs)
- ▶ Non-linear undo (vim, emacs)
- ▶ Regexes (all)
- ▶ Tag support (vim, emacs)