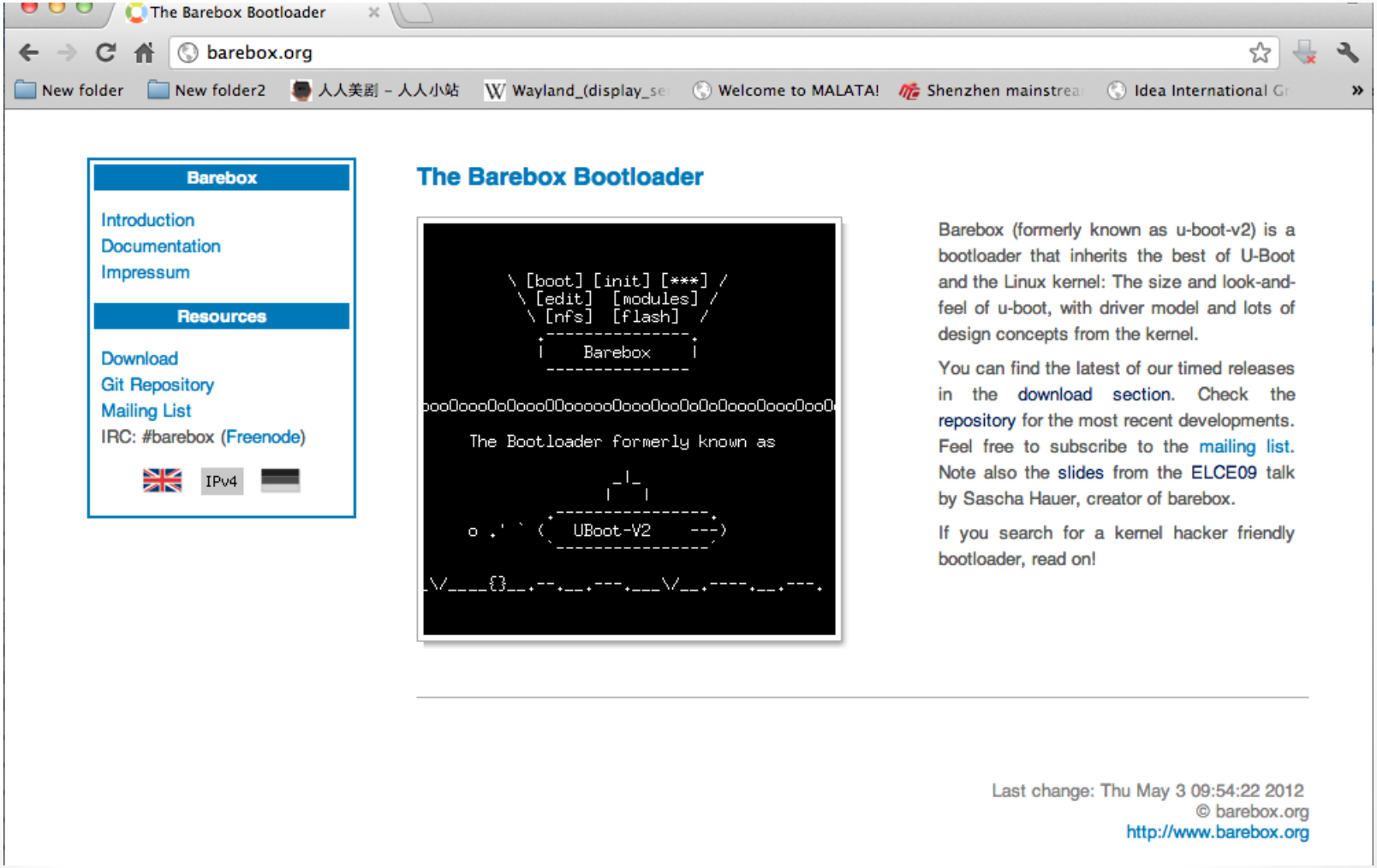

barebox


JCrosoft
Ling

Barebox


The Barebox Bootloader
barebox.org
New folder
New folder2
Welcome to MALATA!
Barebox
Introduction
Documentation
Impressum
Resources
Download
Git Repository
Mailing List
IRC: #barebox (Freenode)
IPv4
The Barebox Bootloader
\ [boot] [init] [***] /
\ [edit] [modules] /
\ [nfs] [flash] /
Barebox
The Bootloader formerly known as
UBoot-V2
Barebox (formerly known as u-boot-v2) is a bootloader that inherits the best of U-Boot and the Linux kernel: The size and look-and-feel of u-boot, with driver model and lots of design concepts from the kernel.
You can find the latest of our timed releases in the download section. Check the repository for the most recent developments. Feel free to subscribe to the mailing list. Note also the slides from the ELCE09 talk by Sascha Hauer, creator of barebox.
If you search for a kernel hacker friendly bootloader, read on!
Last change: Thu May 3 09:54:22 2012
© barebox.org
http://www.barebox.org

BIOS / Bootloader

- Barebox / Redboot / U-Boot / Linux Kernel
  - Responsible for hardware bring up
    - Basic clock
    - Memory init
  - Load the kernel in memory if needed
  - Jump in the kernel

Advanced Bootloader

- Barebox
  - Failsafe update
  - Net boot
  - Security
  - User interaction
  - Modules
  - Menu
  - Applications (up coming)

History

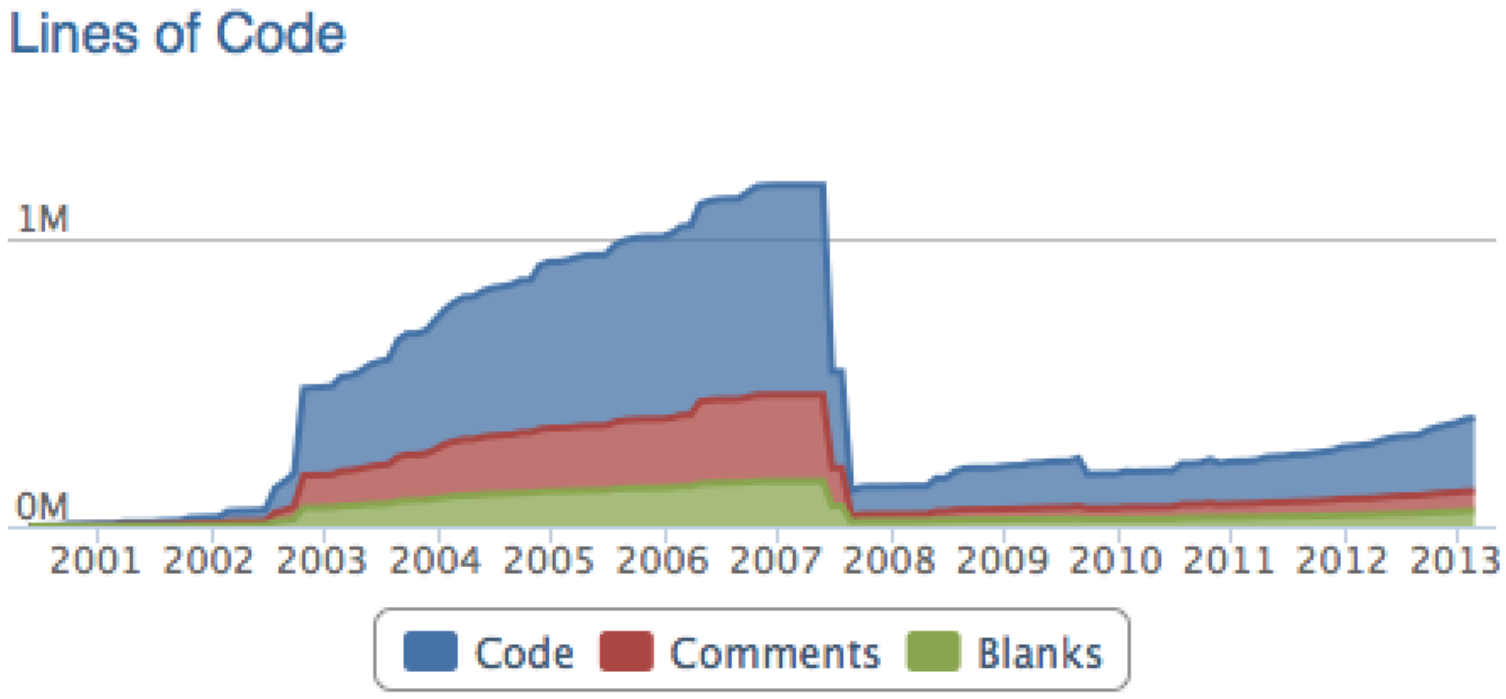
- 2007 / u-boot-v2-rc1:
  Forked from U-Boot,
  as a technology study
  under the “U-Boot-v2” name
- 2009 / barebox-2009.12.0
  Renamed to barebox, with
  it's own infrastructure
- 2013 / barebox-2013.03.0
  49 releases up to now
- Timed releases:
  about once per month
- Maintenance releases:
  on demand

Development Resources

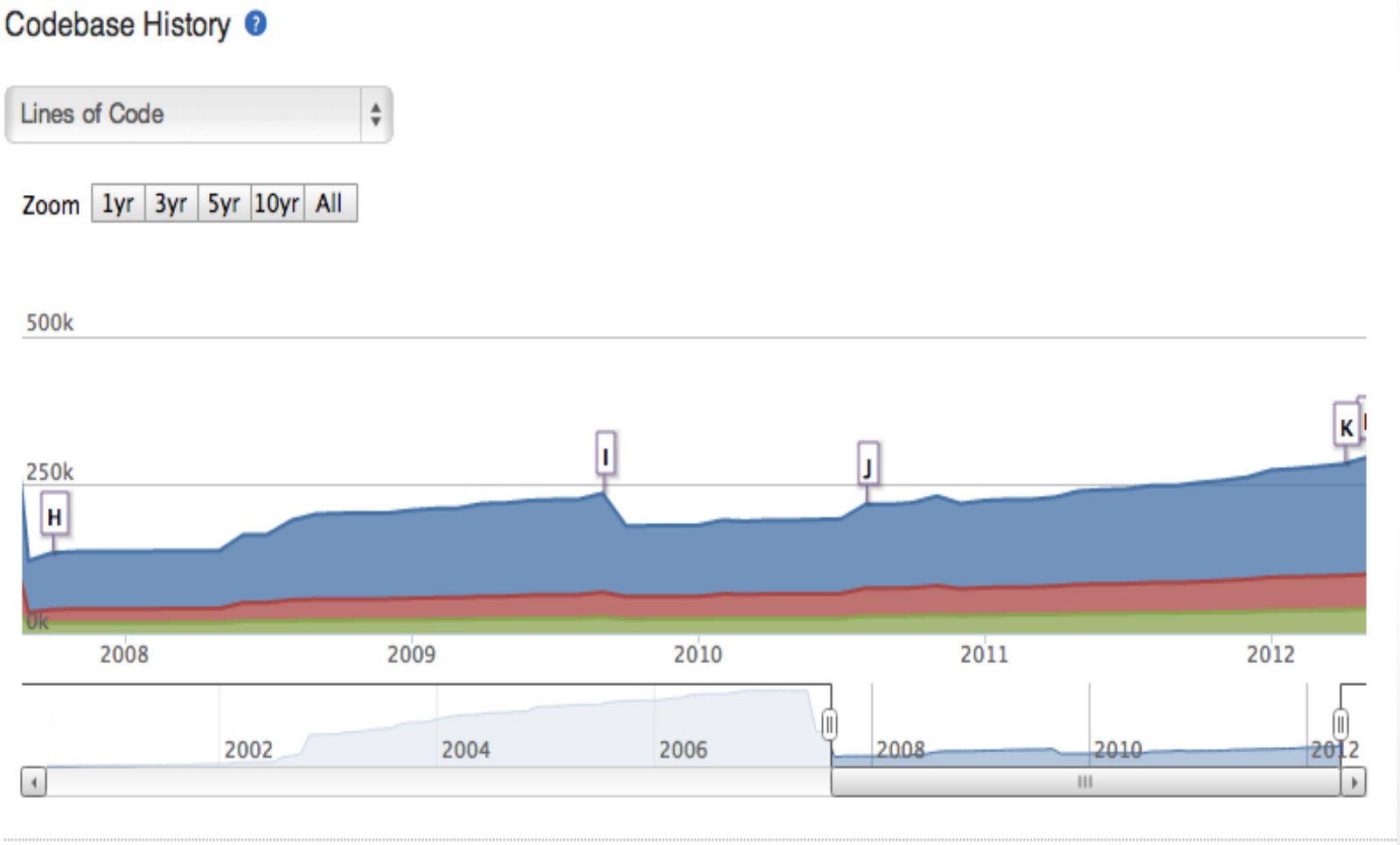
- Website
  http://www.barebox.org
- GIT Server
  http://git.pengutronix.de/?p=barebox.git
- next branch
  accumulates new features
- master branch
  next is merged into master after release
- Mailing List
  http://lists.infradead.org/mailman/listinfo/barebox/

Code analysis

C	90%	7 Other	10%



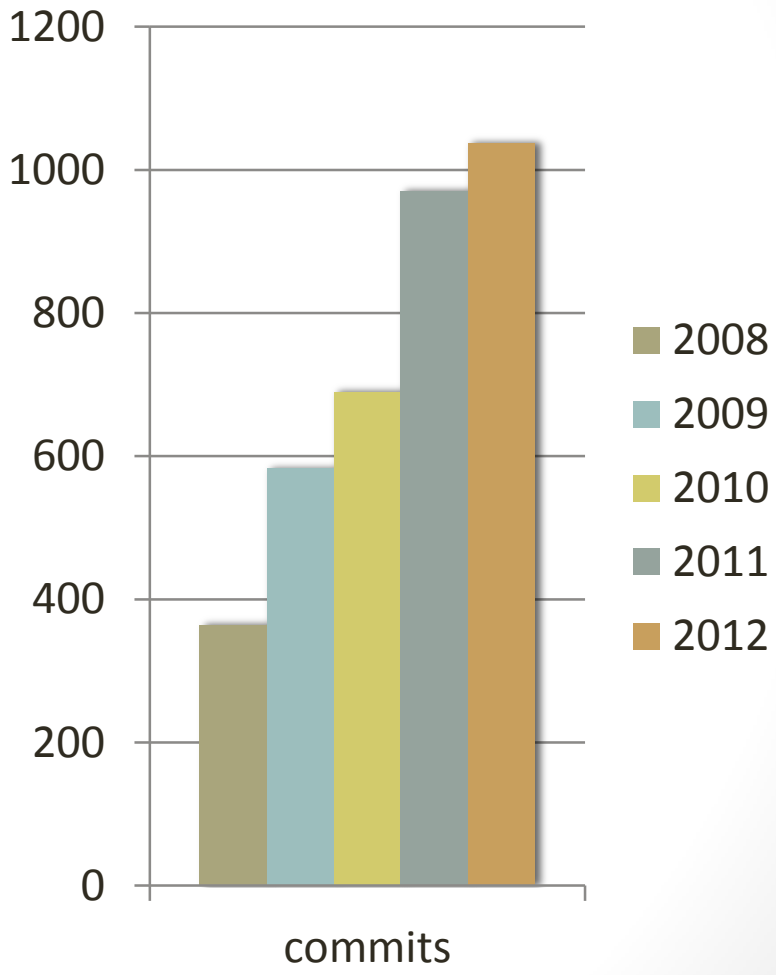
Code analysis



Development speed

Commit History:

2008 364
2009 583
2010 690
2011 970
2012 1979
2013 439 (until now)



Development speed

30 Day Summary

Feb 2 2013 — Mar 4 2013

188 Commits

16 Contributors

including 1 new contributor

12 Month Summary

Mar 4 2012 — Mar 4 2013

2244 Commits

Up +1016 (82%) from previous 12 months

62 Contributors

Up +14 (29%) from previous 12 months

CPU Architectures

- Supported Hardware:

- arm at91, ep93, i.MX, netX, nomadik, nvidia, omap, pxa, samsung, mxs, versatile, calxeda, vexpress, zynq
- Blackfin
- mips
- openrisc
- ppc mpc5xxx, mpc85xxx
- sandbox linux
- x86 bios based

All Features on One Slide

- Build system: Kconfig, Kbuild
- Boot media: linux16, nand, ubi, sd, spiflash
- Data Transport: DFU, Kermit, X,/Y/Z-Modem, tftp, nfs
- Graphics: Framebuffer, splash screen
- Filesystem: cd, ls, cp, saveenv/loadenv, mount, partitions
- Tools: crc, edit, gpio, unlzo
- User interaction: login, menu, password, application
- Drivers: i2c, mfd, flash, serial, spi, usb host+device
- Modules: insmod, lsmod
- Memory: meminfo, memtest, md, mw
- Network: ipv4, dhcp, netconsole, tftp, rarp, ping, nfs, dns
- Binfmt, complete, hush common env

Menu

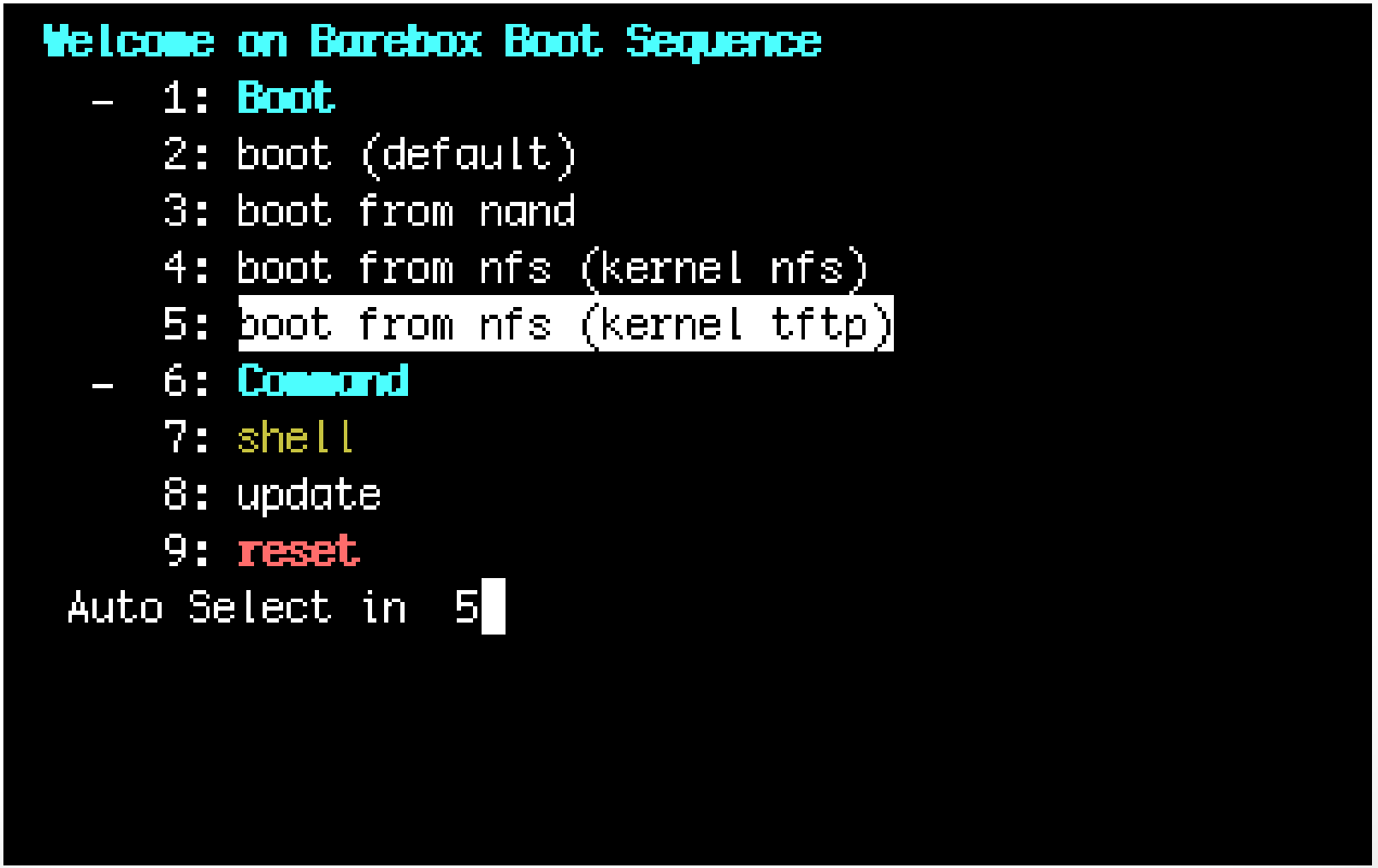
- This kind of menu is very useful when you do not have a keyboard or a serial console attached to your board to allow you to interact with barebox

  For the developer part,
  The framework introduce two API

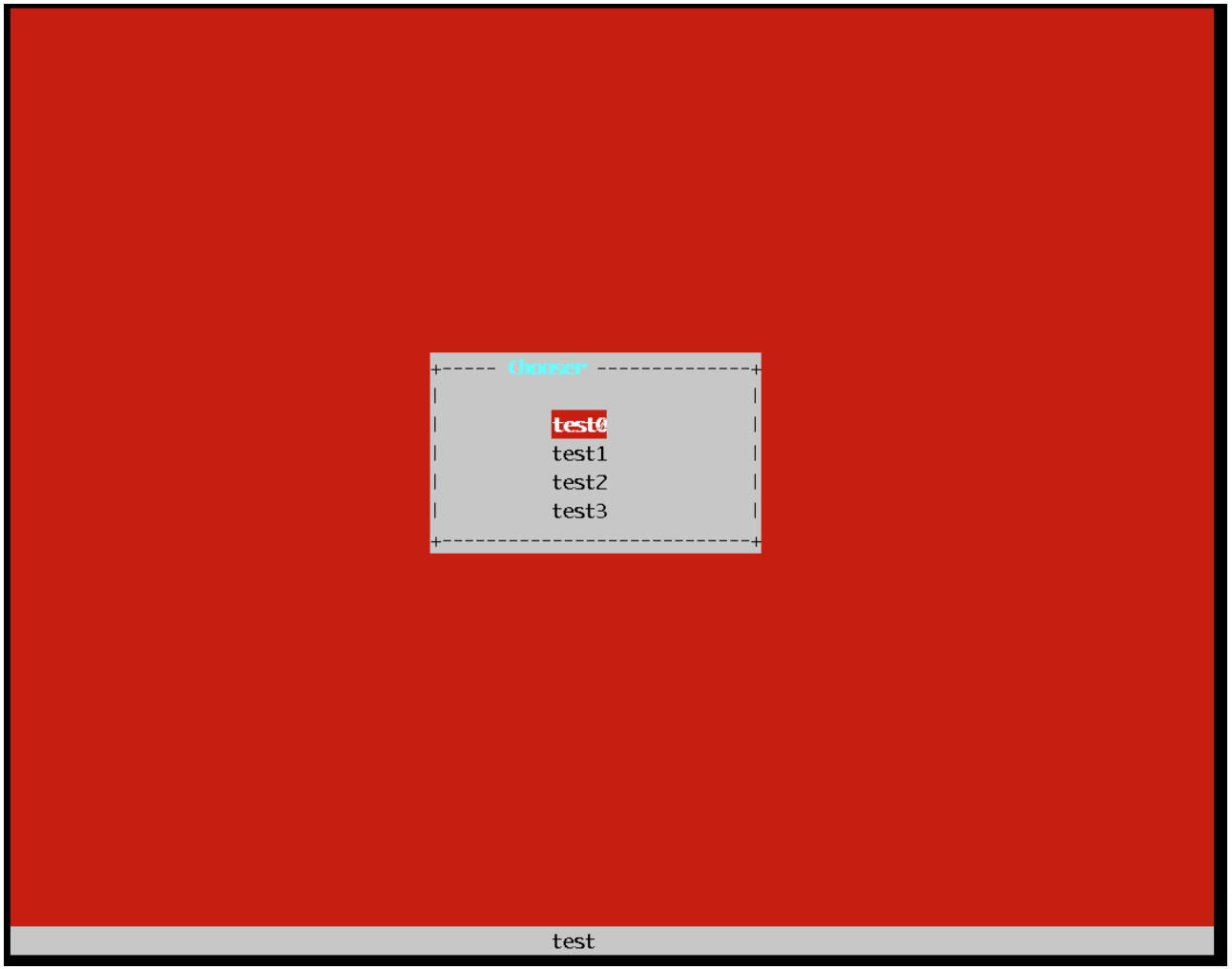
1. C
   that allow you to create menu, submenu, entry and complex menu action

2. Command
   that allow you as the C API to create menu, submenu, entry and complex
   menu action but this time the actions will be store in a function and then be evaluated and executed at runtime.

Menu example



Applications



Applications

- Based on syscalls
- Binary ABI
- Libc
- Curses (menu, panel, form)

Let hack

Questions?