

EdgeBSD, a year later



EuroBSDcon 2014
Sofia, Bulgaria

Pierre Pronchery <khoben@edgebsd.org>
September 27th 2014



Who am I



- Pierre Pronchery
- DeforaOS project since 2001
- NetBSD developer since May 2012 (khorben@)
- And now EdgeBSD as well!



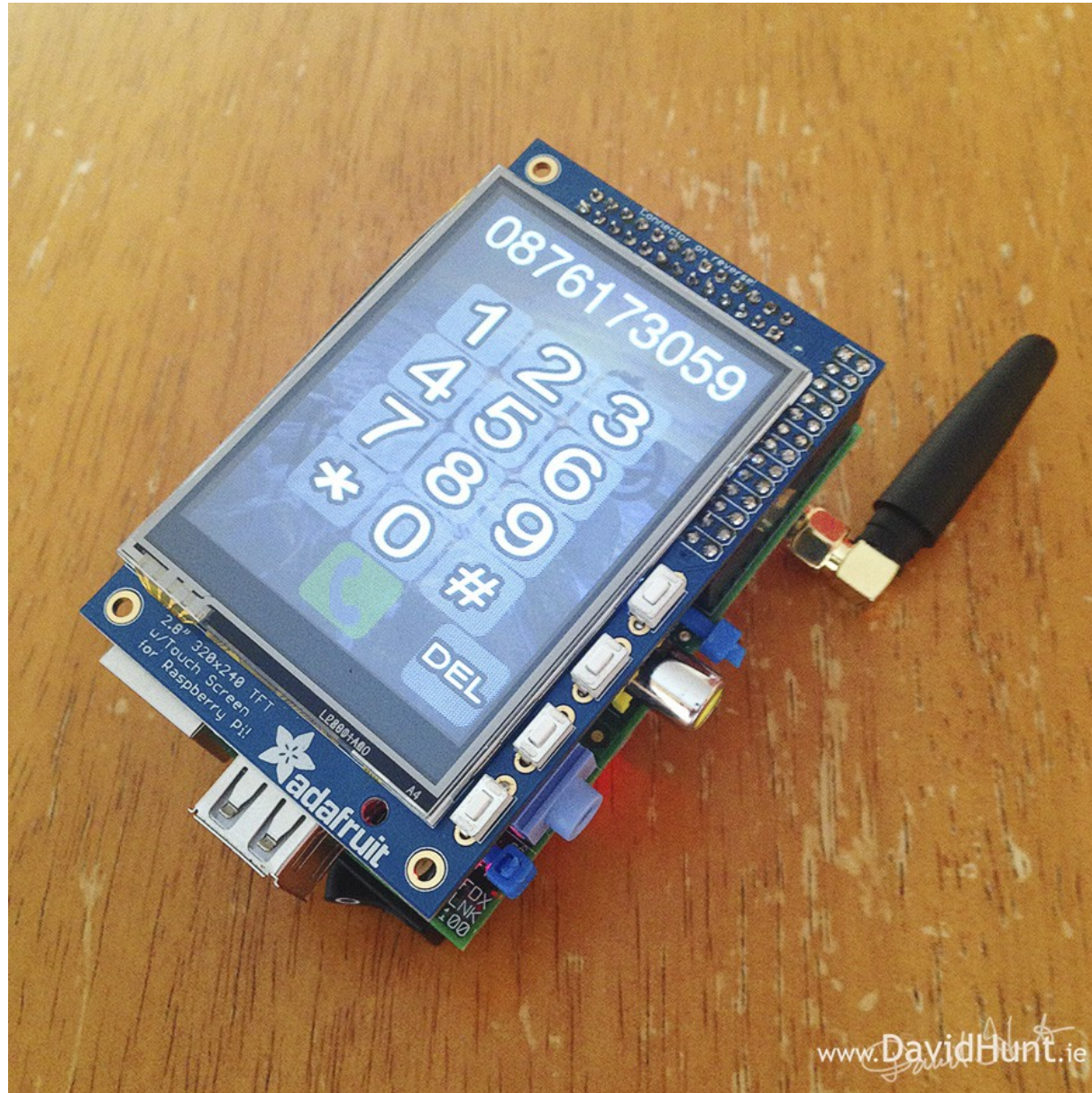


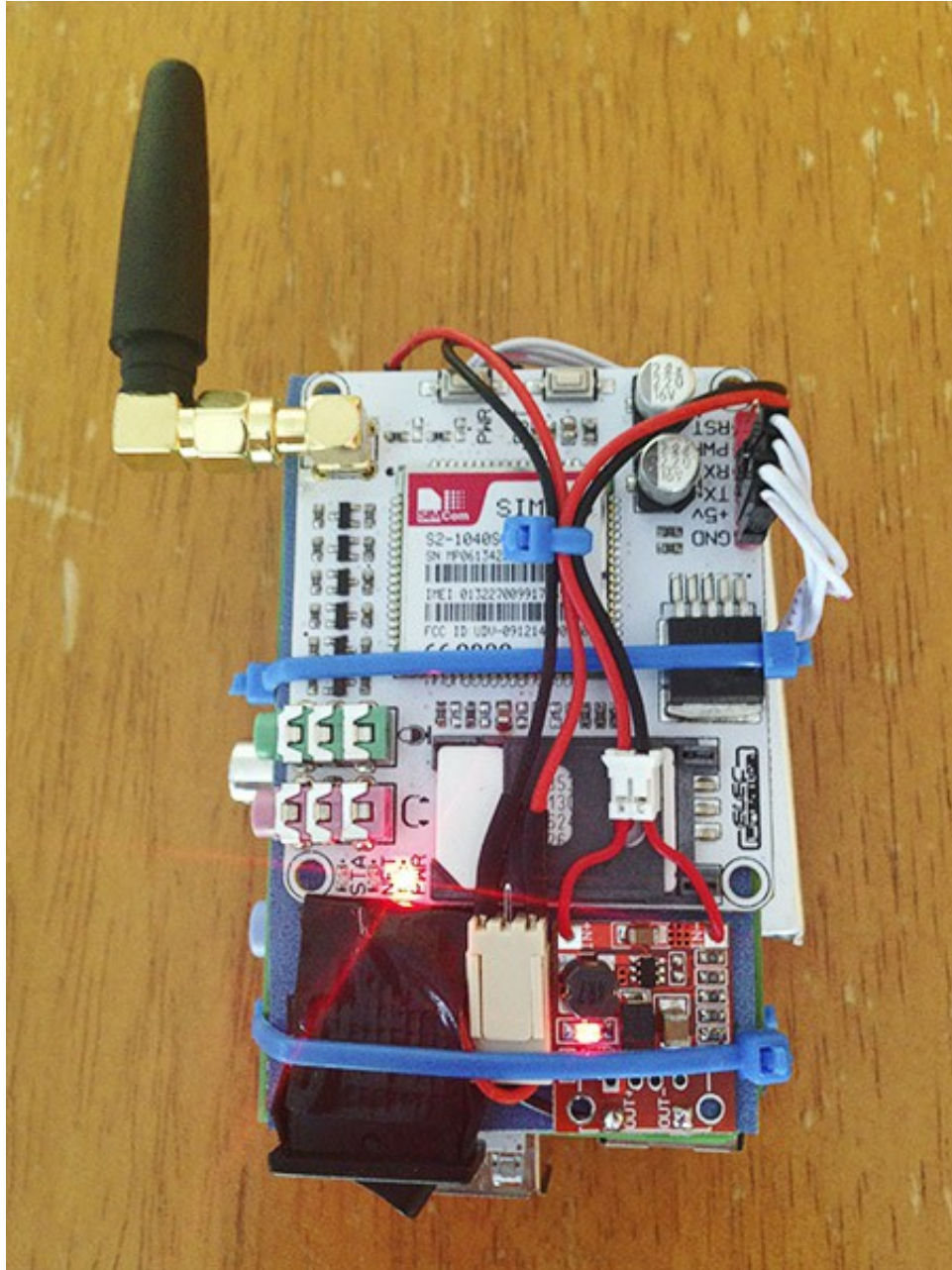
Why EdgeBSD?

- NetBSD is a modern (and cool!) Operating System alright
- Full power for R&D (RUMP! Minix!)
- It runs everywhere! (or almost)
- But modern coders no longer use CVS
- And modern users do not phone with a Raspberry Pi

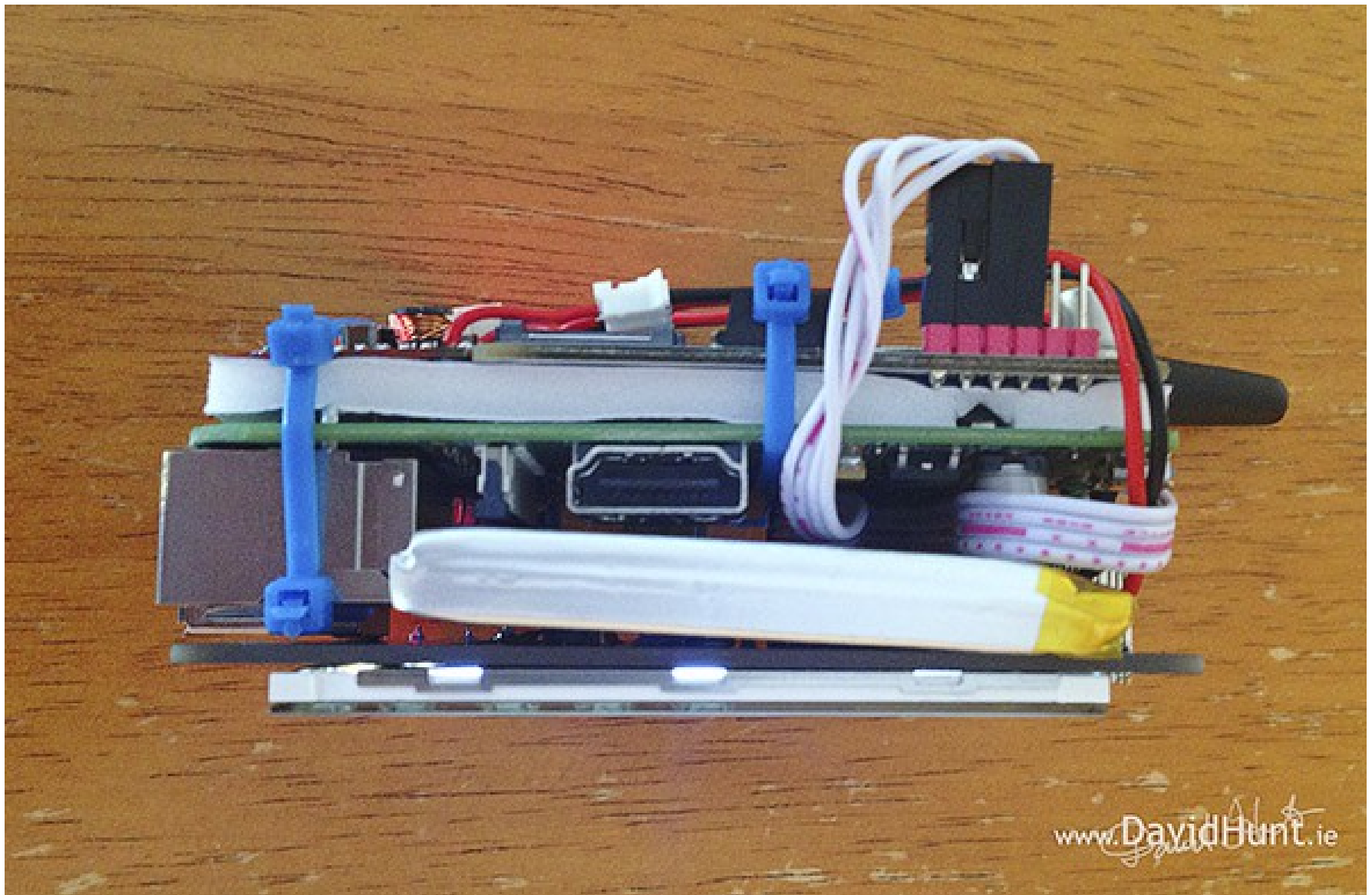


Raspberry PiPhone

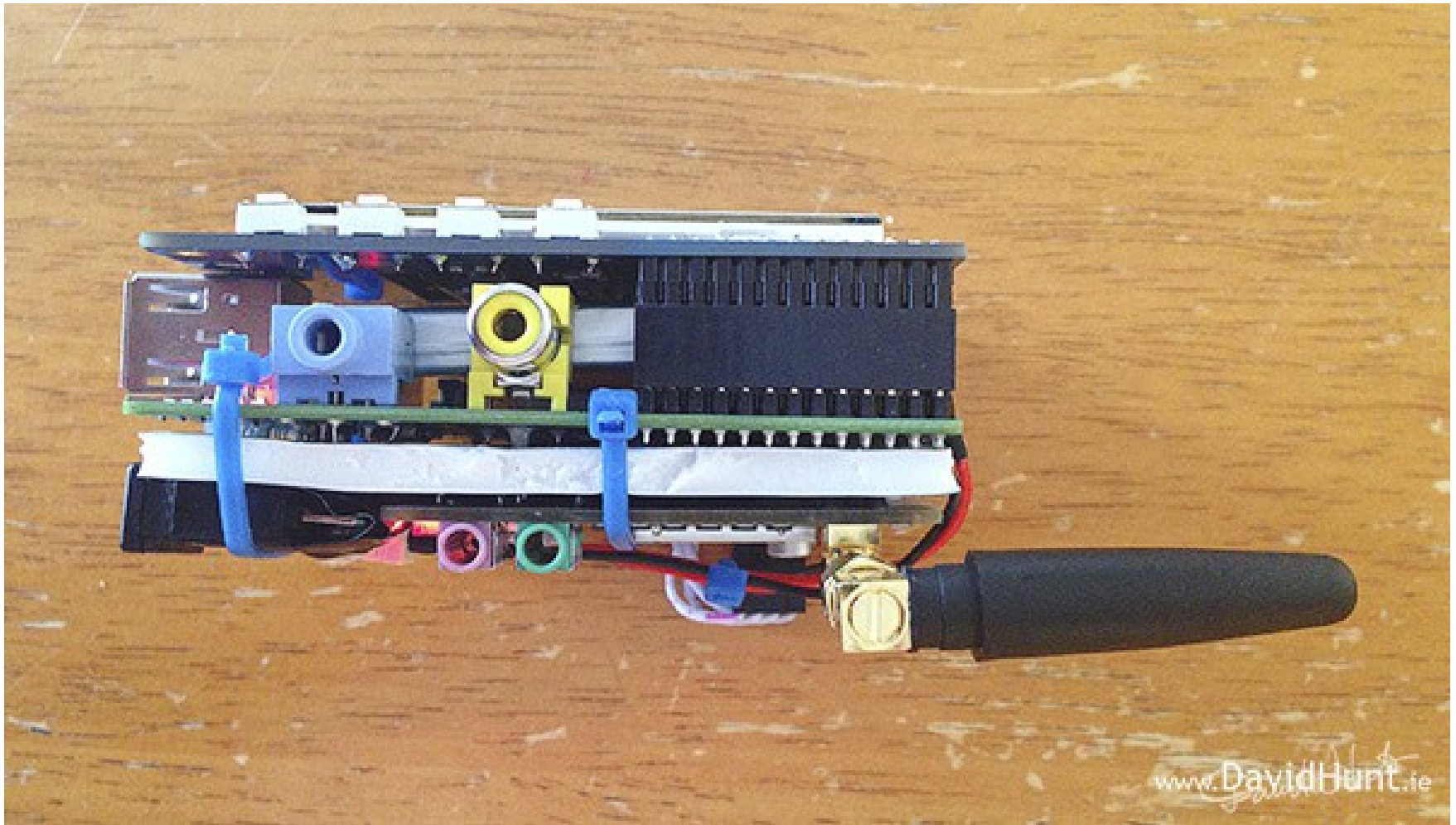




EdgeBSD, a year later (CC BY-NC-SA)



EdgeBSD, a year later (CC BY-NC-SA)



For more:
<http://www.davidhunt.ie/piphone-a-raspberry-pi-based-smartphone/>

Short history

- Booked domain name in July 2013
- Beefed up web hosting in August 2013
- Rushed introduction at FrOSCon 2013
- Web hosting did not survive Reddit
- Slightly less rushed announcement at FOSDEM 2014 (BSD Devroom)
- Carve your NetBSD at AsiaBSDCon 2014
- Rushing this talk at EuroBSDcon 2014



In practice today

- Mirror for Git versions of NetBSD trees
 - netbsd-src.git and edgebsd-pkgsrc.git
- Separate development trees:
 - edgebsd-src.git and edgebsd-pkgsrc.git
- Any official developer can push code
 - (except master and release branches)
- All it takes is a public SSH key



A couple more repositories

- Infrastructure and extra tools in `edgebsd-infrastructure.git`
- Artwork in `edgebsd-artwork.git`
- Administration in `gitolite-admin.git`
(privilege access for the repositories)



Continuous release

- **EdgeBSD 6** based on the netbsd-6 branch
- **EdgeBSD 7** based on the netbsd-7 branch (yes we have sets for amd64 and i386!)
- **Signed** binary packages based on pkgsrc-2013Q1 + security updates (in a Long Term Support fashion)
- **Unprivileged** package builds



The current community

- Essentially found on IRC, #EdgeBSD on the Freenode network
- Yann Sionneau is porting NetBSD to the Im32 CPU there! (watch his talk!)
- We also have two mailing-lists:
 - edgebsd-users@lists.edgebsd.org
 - edgebsd-developers@lists.edgebsd.org



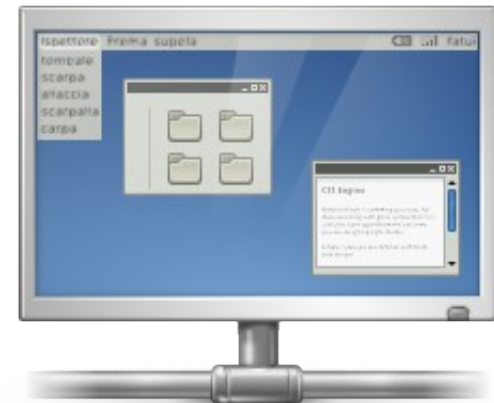
More background

- Been an active part of the Openmoko adventure in 2008-2011
- Open Source hardware and software for a fully open smartphone platform
- I never meant to stop there
- And now I want to run NetBSD on all of my devices!



First: the desktop

- It is my intention to provide a default desktop for EdgeBSD
- Reference software stack that *must* be supported
- I wrote my own so it is the DeforaOS desktop for now





DeforaOS Project

- Been trying to achieve more or less the same since 2001
- First on a Debian base
 - “DEbian FOR All” (but not anymore)
- Three areas for development:
 - Distributed framework (ubiquitous computing)
 - Self-hosted environment
 - Graphical interface



About the DeforaOS Desktop

- Features file & desktop manager, panel, web browser, mail client, telephony, media player, screensaver, camera application, online documentation...
- All with Gtk+ 2, the UNIX way
- *Single file format for configuration*
- Still lacks a proper window manager, session manager though : (



DeforaOS: More in the works

- Graphical installer (EdgeBSD and more)
- Presentation tool, package manager...
- Development environment:
 - Embedded device simulator
 - Graphical disassembler
 - Hexadecimal editor...
- More importantly, the distributed framework (for init, user sessions...)



DeforaOS: Already integrated

- powerd(8) for system events
- wpa_supplicant(8) for wireless
- pppd(8) for telephony
- See also “The DeforaOS Desktop” at pkgsrcCon and FOSDEM 2013
- Official website at <http://www.defora.org/>



Embedded platforms

- I want EdgeBSD on my tablet
 - “Touch your NetBSD” at EuroBSDcon 2012
- I really want EdgeBSD on my phone!
 - “Call your NetBSD” at BSDCan 2013
- All with the same desktop environment
 - But finger-friendly and still functional!



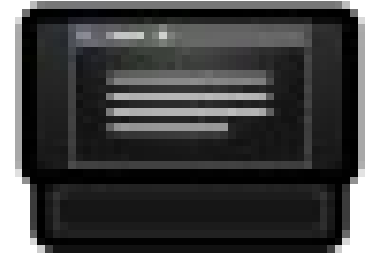
The WeTab tablet

- It's x86!
- Short demo



The Nokia N900 phone

- Now more difficult to come by
- Still lots of drivers to write
- But we can get there!
- Reinoud seems to be working on a phone too
- Longer demo
(because it is very slow to boot atm)



How to make this convenient

- Cross-build packages
- More graphical tools
 - SPI bus simulator?
- Remote debugging (hi Jordan!)
- Ready-to-flash system images!



EdgeBSD etch

- Just a shell script to:
 - Unpack sets,
 - Install and configure packages,
 - Cleanup and ship as a flashable image
- Generates bootable VM images too
- Does everything offline
- Works across architecture and system



EdgeBSD etch: Usage screen

Usage: `etch.sh [-cq v][-O name=value][-h hostname][-o filename]`

- `-h` Hostname for etching
- `-o` Target filename
- `-v` Verbose mode

Some useful variables:

`DESTDIR` for the staging directory

`PREFIX` when dealing with packages

`IMAGE_SIZE` when generating some images

`USERNAME` and `PASSWORD` for the default user

and for EdgeBSD:

`EDGEBSD_{ARCH, KERNEL, MIRROR, SETS, PACKAGES, SERVICES, VERSION}...`



EdgeBSD Etch: Demo!



More goals

- Security, security, security
- Moar security
- Less software in base
- Replacing init?
- Lots of other ideas...



Where to find us

- <irc://irc.freenode.net/#EdgeBSD>
- <https://www.edgebsd.org/>
- edgebsd-users@lists.edgebsd.org
- edgebsd-developers@lists.edgebsd.org



And for myself, khorben@edgebsd.org

Thanks for your attention!

