

Kerbango Internet Radio

- Monta Vista Hardhat Linux
- 16 MB SDRAM
- 8 MB NAND Flash
- 4 MB ROM
- 1 Ethernet, 2 USB, Audio, Modem

Kerbango Founders

- John Fitch (CEO)
- Jim Gable (Marketing)
- Carl Hewitt (CTO)

Marketing & Sales

- Jim Gable –
Fancy Marketing
Title
- Al Luckow –
Graphic Design &
Web
- Marc Auerbach –
Less Fancy
Marketing Title
- John Felt – Sales

Hardware Hacks

- Bob Hollyer – Hardware Architect Hack
- Nick Vacarro – Bringup, I2C, Preferences, ROM, Firmware Hack
- Herve´ Le De´ve´hat – Experimental Hack
- Steve Calfee – Audio Driver Hack

IT, DB, Content & QA

- John Bryant – IT Herder, Admin & Web App Hack
- Perdeep Sanders – IT & Admin Hack
- Mark Houghton – Database Hack
- John Simmons – Content Herder
- David King – QA Herder

Software Hacks

- Carl Hewitt – CTO Hack
- Ben Manuto – Hack Herder, System Hack
- Brian Hales – UI Hack
- Jim Reekes – RealPlayer, Audio Hack
- Alan DuBoff – Comm, Flash Update, Authentication, Prefs, System Hack
- Steven Lang – NAND, System Hack
- Eric Hewitt – Gatekeeper, System Hack

Some Highlights

- One of the earliest adopters of Embedded Linux
- Best Innovation of 2001 award at the Consumer Electronics Show, Las Vegas
- KTS used in SoundJam, acquired by Apple, renamed to iTunes...
- Rave reviews everywhere, Wall Street Journal, Playboy, Forbes, Time, Linux Journal, blah-blah
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Some obstacles

- RIAA, BMI, ASCAP, taxing our ears
- Napster Case in the middle of development.
- Dot-bomb in general
- 3Com
- Respecting User Rights!!!!!!!!!!

Embedded Linux

- Licensing still biggest draw
- Open Development
- Common Software
- GNU toolchain supports more processors than any other compiler
- Tools continue to evolve

Building the Toolchain

- Bill Gatliff, <http://www.billgatliff.com/>
- Dan Kegel, <http://www.kegel.com/crosstool/>
- Building Cross Toolchains with gcc
http://gcc.gnu.org/wiki/Building_Cross_Toolchains_with_gcc
- “Building Embedded Linux Systems” by Karim Yaghmour, Jon Masters, Gilad Ben-Yossef and Philippe Gerum
- Configuration names,
http://sources.redhat.com/autobook/autobook/autobook_17.html

Busybox

- Created by Bruce Parends, but Erik Andersen has been doing work for years
- Originally developed for floppy based install of Debian.
- Configurable
- Could be useful for a while longer.
- <http://www.busybox.net>



Acquisition or rolling your own?

It's not just tools, but a system also

- What it gets down to is cost and time.
- Vendors can often assist with hardware associated problems.
- The free communities
- Try to use open solutions, but keep an open mind.

Android

- <http://code.google.com/android/>
- Open Community Development
- 30 member list which includes much of LiMo
- Driving an open platform, and all of us benefit from that.

LiMo

- <http://www.limofoundation.org/>
- Members list is quite long
- Healthy sign for embedded linux
- Strong support from telcos, tools vendors, mobile vendors, one of the strongest areas of growth...
- Symbian being open sourced as possible outcome?

A few Linux products

- TiVo, <http://www.tivo.com/>
- Brocade,
<http://www.brocade.com/index.jsp>
- NetApp, <http://www.netapp.com/>
- Cisco, <http://www.cisco.com/>
- Sharp Zaurus

A few linux devices

- gumstix, <http://www.gumstix.com/>
- LinuxDevices, <http://www.linuxdevices.com/>
- openmoko, <http://www.openmoko.com/> and the wiki, http://wiki.openmoko.org/wiki/Main_Page
- <http://www.plathome.com/>
<http://syskey.net/product/plathome.html>

Other embedded devices can compliment Embedded Linux

- Many common AVR, PIC, or similar devices...
- <http://www.sparkfun.com> Is one of my favorite online sites, great stuff...stepper motors, etc...
- <http://www.irobot.com/>
- <http://hackingroomba.com/>

Shop Talk

- Tech Shop, <http://www.techshop.ws/>
- San Jose City College
- DeAnza College
- The Sawdust Shop, <http://www.sawdustshop.com/>
- craigslist, <http://sfbay.craigslist.org/>
- Maker Group, 1st Sun. at Tech Shop, Member Mixer 8/29, <http://www.techshop.ws/events.html>
- Cal Blacksmith Assoc., <http://www.calsmith.org/>
- TAP Plastics, <http://www.tapplastics.com/>
- SIMS, <http://www.sims-group.com/>