

Openmoko and Ubiquitous Computing

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- Never heard of OpenMoko before this event?
- Heard of OpenMoko but aren't exactly sure what it is or what's special about it?
- Understand OpenMoko well?

Mobile Computing Platform

- General-purpose computer
- Small, Portable, Cellphone-sized
- Connected (WiFi, cellphone (voice and data), Bluetooth, Zigbee, IrDA, etc.)

- Location aware (GPS)
- Virtually always on
- Input devices (screen, buttons, sensors, microphones, etc.)
- Output devices (LEDs, screen, motors, etc.)

Mobile Computing Platforms are
always with us

Mobile Computing Platforms are

- General purpose
- Often needs to be in hand to be used

Ubiquitous Computing devices are usually

- Application-specific
- Interact with more naturally
- Invisible

We don't know what Ubiquitous
Computing Devices will look like
or what they will do

- How can we create truly innovative applications if critical hardware features are missing?
- How do the manufacturers know what hardware features to include if they don't know what applications will require?

- Innovative developers
- Involved community
- Encourage wishing, dreaming
- Incorporate community
feedback

- Open Source as much as possible
- Allow expansion
- Reduce barriers to entry

Result:
Innovation

Openmoko

Openmoko is a completely open source Linux distribution designed for mobile computing devices.

Openmoko is also the company behind the Openmoko Linux distribution

Openmoko manufacture the Neo family of handsets, specifically designed with chips for which all drivers are open sourced.

Openmoko based on

- Linux
- X11
- GTK
- Busybox, Matchbox
- Udev

- No NDA
- Unrestricted access to source and development environment
- No qualification required
- No purchase necessary

- 400MHz ARM CPU
- 640x480 (VGA) touchscreen
GSM, GPRS, Bluetooth
- GPRS
- WiFi
- USB port (device/host)

Neo handsets can be completely reprogrammed (boot loader, kernel, file system) by anyone at any time, without the need of any special equipment or cables

Open hardware?

- Block diagrams
- Inter-chip connections
- Data sheets
- JTAG
- Signals of interest

Open industrial design?

CAD files for plastic and case is
"open sourced"

Devices designed for specific applications

Dash

Networked sensors

Buglabs

Virtual devices

What about iPhone, Android,
Qtopia?

OpenMoko is a project more than a product.

Intended to be a framework to allow and encourage the development of innovative mobile computing devices, or ubiquitous computing devices.

Openmoko Linux can run on other hardware, and other software can be installed on Neo handsets

- Android apps on Openmoko Linux
- Qtopia on Neo hardware
- Qtopia on Openmoko Linux
- Openmoko Linux on other hardware?

Collaborate and share rather than
polarize and chose sides

Current state of Neo hardware

- Neo 1973 sold out
- Neo Freerunner testing
- Freerunner mass production of consumer ready hardware
- Freerunner consumer software

www.openmoko.org

www.openmoko.com

Welcome exploring potential
collaboration with other
companies

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