Openmoko is dead.

Long live OpenPhoenix!

Nikolaus Schaller, Lukas Märdian
LinuxTag, Berlin, May 26th, 2012
Agenda

Part one: some history
Part two: a long way home
Part three: rising from the ashes
Part four: flying higher
Part five: use it as daily phone – software
Q&A
Some history – Past iterations

• FIC GTA01 – Neo 1973
  – Roughly 3,000 units sold
  – Production discontinued

• Openmoko GTA02 – Neo Freerunner
  – Roughly 15,000 units sold
  – Hardware revision v7
  – Production discontinued
Some history – The End (of part I)

• FIC and Openmoko got out
• Strong community continues development

• Golden Delicious taking the lead
  – Excellent support for existing devices
  – Shipping spare parts and add-ons
  – Tuned GTA02v7++
    • Deep sleep fix (aka bug #1024) -> Improved standby time
    • Bass rework -> Improved sound quality
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A long way home

How do we get to a new open mobile phone?

– open kernel for big ${BRAND} – reverse eng.
– order from some ${MANUFACTURER} – hope for openness
– DIY, “Use the source, Luke!”
Using the source: Beagleboard

Beagleboard
- Full Linux support
- Open schematics
- Open layout
- Expansion connectors
- Lots of documentation
- Components available
In theory it could fit (Aug. 2010)
OM-beagle-hybrid (Dec. 2010)
GTA04A2  (Feb. 2011)
How do we get to a new open mobile phone?

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Issues, and how to resolve them

• Switching regulators are complicated
  Errors cause unexpected reboots.
  Solution: a proper layout (board redesign)

• Do not swap clock and data lines
  I²C controls power management chip
  No MMC power results in less fun.
  Solution: a new board layout

• Components get discontinued
  Find replacements (redesign)
Before redesign: GTA04A2 (Feb 2011)
After redesign: GTA04A3 (Mar. 2011)
GTA04A3 (June 2011)
Issues with GTA04A3 (Jul. – Aug. 2011)

• WiFi and BT did not work reliable
  – Rework power supply
  – Identify soldering issues

• Swapped Headset signals
  – Use wires as quick fix
Issues with GTA04A3 (Sep. – Nov. 2011)

• GPS Bugs (double feature)
  – Bug from GTA02 copied sucessfully!
    • Switch MMC clock off (when not needed)
  – Wrong GPS switch installed
    • Change switch chip

• UMTS module can't be switched off
  – Reset line did not work as expected
  – Power-On pin was hard wired
    • Requires another board redesign
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Rising from the ashes:
GTA04A4 – OpenPhoenux (Feb. 2012)

- Golden Delicious GTA04 – Phoenux
  - PCB and ICs fit into 1973 / Neo casing
  - In production and available for ordering
GTA04A4 – OpenPhoenux

GTA04 Features

- RS232
- Optional Camera
- GPS
- up to 32 GB SDHC
- USB 2.0 OTG
- Stereo handsfree
- Gyroscope
- Compass
- UMTS module
- IrDA
- optional Torch/Flash
- WLAN/Bluetooth
- Barometer
- Accelerometer
- DM3730-800MHz (TI OMAP w. DSP and 3D Graphics)
- 512 MB RAM/NAND
- FM/RDS transceiver
- Audio in / TV out
- Display connector
- optional Ambient light sensor
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Flying higher... what's next?

- Needs new clothing: DIY Cases
  - Not everyone likes the shape
  - A few people do not want to upgrade their GTA01/02, but want to have two devices

- Progress so far:
  - Mill your own case out of Wood
  - Order a complete case from Shapeways!

There will be a case kit containing the missing parts like speakers, antennas, vibracall motor, ...
Wooden case by Radek
Wooden case
Laser sintering by Shapeways

Modify 3D CAD data from Openmoko GTA01/02

Different materials and color options are available!
Flying higher... what’s next?

Extend your Phone!

The GTA04 is an extensible hardware platform. Use it to build your own portable device.

- Portable measurement devices
- Tablets
- Notebooks
- You name it!
Hardware Keyboard Prototype
The GTA04 module approach
A portable terminal with WiFi/BT, RFID

- Bigger display
- Big battery
- without 3G
- RFID reader included
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Distros

• Distros already ported to GTA04

1. Debian/LXDE (development system)
2. QtMoko
3. SHR
4. Replicant (fully free Android)
Distros - QtMoko

• Continuing the Qtopia/QtExtended project
• Written in Qt
• Stable and usable as daily phone
• Consistent GUI in all screens
• Most HW features are working (GSM, WiFi, Bluetooth, GPRS, GPS, USB, Headphones)
• Open to patches, ideas, new applications and contributions
Distros - QtMoko

• Project home
  http://www.qtmoko.org

• Mailinglist
  community@lists.openmoko.org

• Source code
  http://github.com/radekp/qtmoko
Distros - SHR

• Freedom of choice:
  – EFL, Qt, GTK (running Xorg)
• Almost usable as daily phone
• Working: GSM, GPRS, Wi-Fi, GPS, USB, …
• Based upon FreeSmartphone.Org and Yocto
• Running on Freerunner, Nexus S, N900
• Fully **community driven** and open to new contributors
Distros - SHR

- Project home (git, bugtracker, wiki)
  http://www.shr-project.org

- Mailinglists
  shr-user@lists.shr-project.org
  shr-devel@lists.shr-project.org

- IRC
  #openmoko-cdevel @ Freenode.net
Distros - Replicant

- Replicant is a fully free Android
- Current version: 2.3 (gingerbread)
- Porting started the end of March
  - Boots to lockscreen
  - Needs more work to be usable as a daily phone
  - Working as a music player already

- Project home
  http://replicant.us
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Q&A
Q&A

Meet us now @ Booth 181c, Hall 7.2a
  • Fr: 15:00, 17:00
  • Sa: 12:00, 14:00

Visit us
  • wiki.openmoko.org
  • www.gta04.org
  • www.openphoenix.org

Free your phone!