



Innovation

in Mobile Linux Devices

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Innovation??

Typical Phone 25 years ago



- Moore's Law Made The Hardware
- How about Software?

1/ Mobile Phone as Convergence Device

- Voice
- Roaming
- Data Connectivity
- Digital Camera
- Voice Recording
- Office Tool
- Corporate
- VPN
- Diary
- PIM / Address
- WiFi / WiMAX
- Modem
- Security



- Television
- Internet Browsing
- Music
- Streaming Video
- Video Telephony
- Push-2-Talk
- Text Messaging
- Photo Messaging
- Video Messaging
- Instant Messaging
- Gaming
- GPS Navigation
- Geo / Presence

2/ Different Market-Segment Device

Personal Info Center



Sony Mylo

Home Video Phone



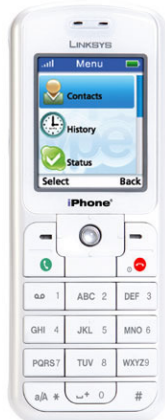
Leadtek XTP8830

Cellular Phone



Motorola Ming

IP Skype phone



Cisco iPhone

Portable Media Player



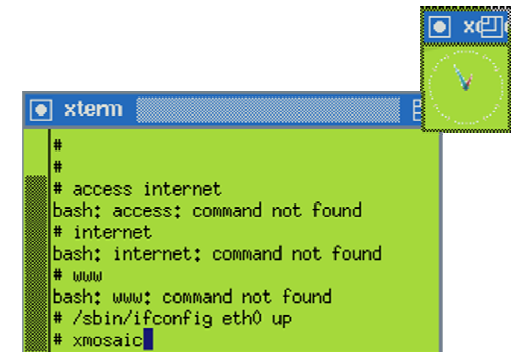
Archos 604WiFi

The Achilles Heel

- Software innovate the device, and became the Key challenge for maker.
- Yes, Linux, best platform for a modern, rich-features devices.
- Can we do like that?
- We want magic box who provide:
 - Good User Interface
 - Support Different Input Mechanism
 - Handle multiple Task
 - Interaction between Applications

...

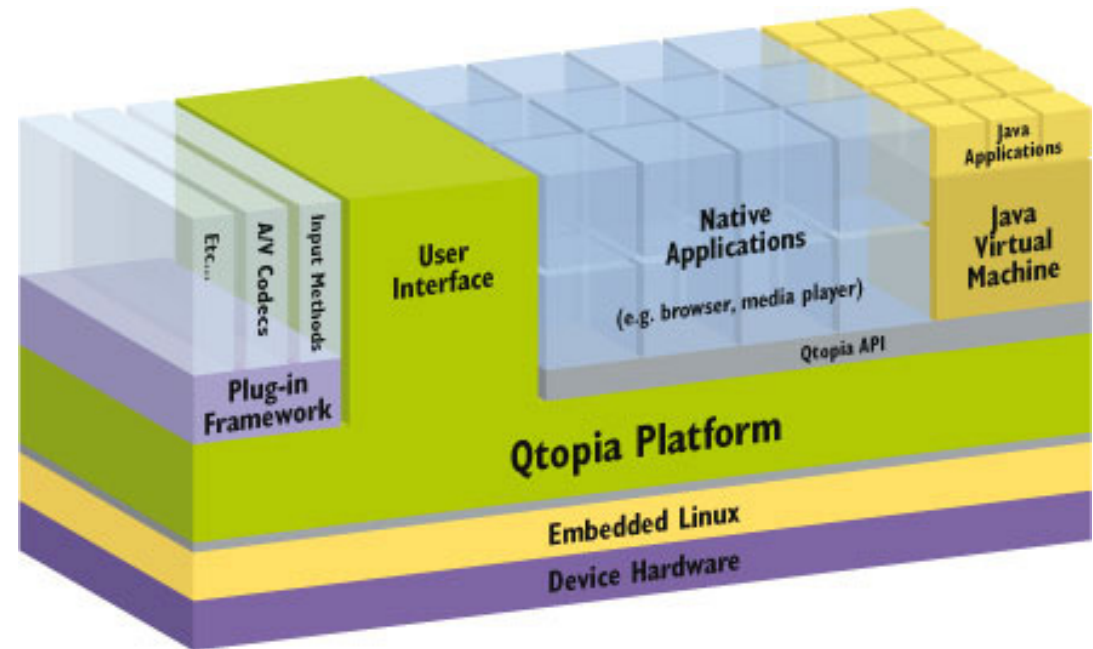
So we need
Excellent Middleware
Pre-integrated Applications



The Answer: Qtopia

- One of the flag product of Trolltech, the other is Qt and base on Qt.
- Completely GUI toolkit and Application framework dedicated for Linux.
- Rich Features and full set of Applications provided.

**Qtopia is a
Innovation Platform also
can make you Innovation**



The Innovation of Qtopia

- In the Market since 2001
- Qtopia Core -> Qtopia Platform -> Qtopia Phone Edition
- Ecosystem, work close with Sun, Opera, Zi, BeepScience, Real.
- Further: BroadBand Suite, Touch Media Suite...



Qtopia make you Innovation

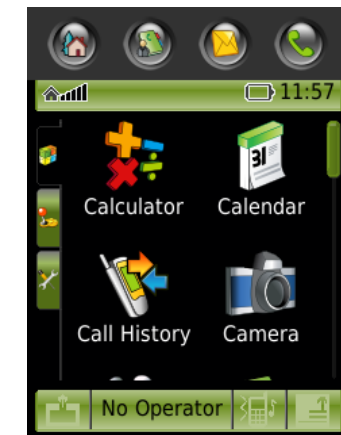
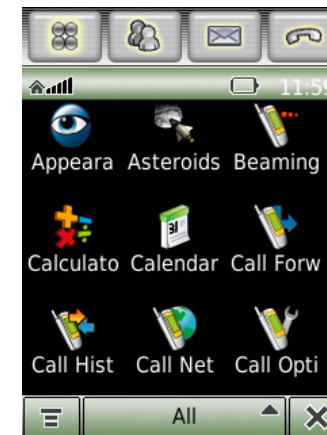
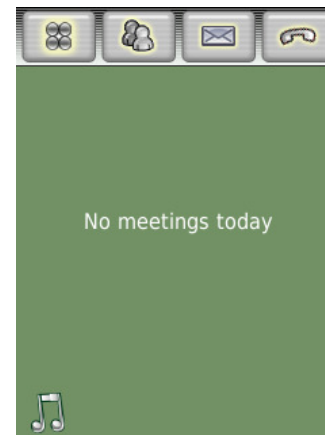
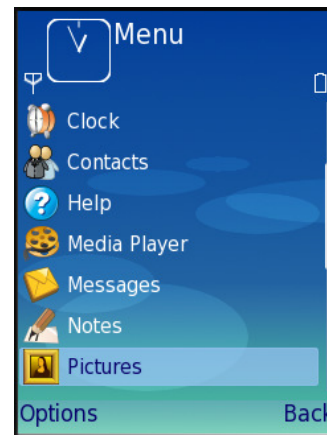
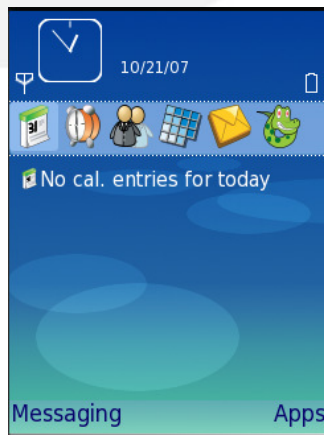
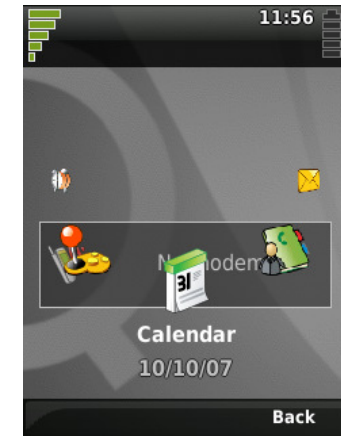
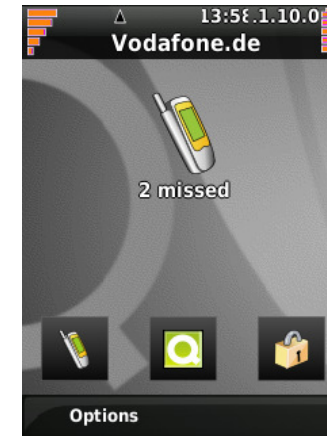
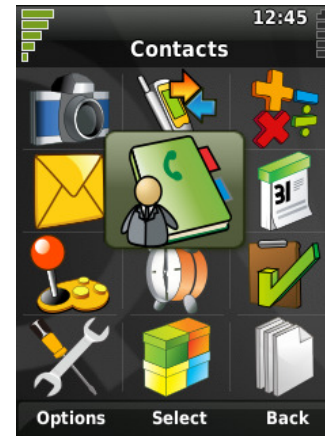
- SDK + GreenPhone, also work close with OpenMoko
- Full Source Provider, mean control and innovate
- Qt (foundation of KDE) and Qtopia Share the core library and APIs
- Community, www.qtopia.net



Conclusion of Qtopia

- Target
 - Manufactures
 - ODM/OEM
 - ISV
- Benefit
 - Work with Embedded Linux deeply, run wherever Linux runs
 - No brand restriction, free your innovation
 - Strong UI customization
 - Turnkey-solution available, Fast TTM (Time to Market)
 - Linux+Qtopia, matchable solution compared to Symbian, Windows Mobile
 - Dual License

Qtopia UI Customization Examples



Trolltech Brief – 13 years continues growth

- Founded in 1994, Headquarter in Oslo, Norway
- Now over 250 full-time Employees, and over 5000 customers
- IPO 2006, Oslo Stock Exchange
- Six Offices WW, Beijing, Oslo, Brisbane, CA, Berlin and Munich
- Beijing Office: 丰联广场A2501,朝阳门
- Products: Qt, Qtopia, Qt jambi, TeamBuilder.

TROLLTECH®

Work close with China Customers

- Establish Beijing Office 2005
- Word-class Local Support & Consultancy Team, provide support to China, Taiwan, Japan and Korea customers.
- Customer cover most Local Manufactures and Design House.
- ZTE, Cellon, Longcheer successfully shipped Qtopia Phones.



Powerd By Qtopia



VOIP Phone



Portable
Media



TV/handheld



Industrial apps



Mobile
Phone



Automotive



Medical
devices



Broadband
devices



Set-top
box

Qtopia in Glance

- Video
- Device

Step by Step build an interesting Device

1. You must have a ARM development Board first, otherwise you can get a **Greenphone** or OpenMoko as reference platform.
2. Going with WindRiver Linux or other Open-source Linux Solution eg OpenEmbedded.
3. Porting Linux to your target Hardware if necessary and make sure it works fine.
4. Going with Qtopia GPL or Commercial, choose **Qtopia Core/Platform/Phone Edition** or **GreenSuite** as need.
5. Porting Qtopia to Linux, generally take one week. Take use of "**Device Profile**"
6. Customizing Qtopia UI, Applications.
7. Put interesting applications to the system, from Trolltech Partner or yourself. GBA Emulator? **Web Browser**?
8. Performance Tuning and Test.

Step by Step write a Qtopia Application

1. Launching Qtopia SDK or building from source
2. If building from source, check your gcc version and perl version.
3. Use "Assistant" for the API reference, Use "Qt Designer" for the UI design (widget, layout).
4. Coding...
Use "qmake" to generate project descript file and makefile.
5. Running and Debugging...
Use "QVFB" to emulate and gdb/ddd to debug on x86.
6. Get a GreenPhone, OpenMoko, at least you need have Nokia Tablet.
7. Cross-Compile your Qtopia application to target hardware, Running on actual Device.
8. Test and Bug Fix.
9. Use "Qt Linguist" to translate and deploy the application to other localization.

Hello World, Qtopia

- Get Qtopia SDK @ <http://www.qtopia.net>
- First Hello World Application using 8 lines of code.
- Games, Mobile Web2.0, Mobile ERP, whatever.



```
#include <QtopiaApplication>
#include <QPushButton>

int main( int argc, char **argv )
{
    QtopiaApplication a( argc, argv );
    QPushButton *hello=
        new QPushButton( "Hello World!", 0 );
    QObject::connect( hello, SIGNAL(clicked()),
        &a, SLOT(quit()) );
    hello->show();
    return a.exec();
}
```

More Qtopia info @ <http://www.trolltech.com/products/qtopia/>



Q & A
Thanks

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