

Qt Maemo-Hildon port



- Kate Alhola
- Antonio Aloisio



Kate Alhola

- Maemo Chief Engineer in Forum Nokia
- Long term Open Source developer, first contributions 8-bit microprocessor in early 80's
- Linux kernel driver from early 1.x kernels
- Katix RTOS with IP stack for PC, 68K and PPC
- Before Nokia, long career embedded Linux and RTOS related development in small subcontractor companies
- Numerous embedded HW designs with 6809, 68xxx and PPC



Antonio Aloisio (GnuTon)

- Maemo Qt developer in Forum Nokia
- KDE4 KBlogger main developer
- He has contributed to the developing of KDEPim/KBlog

Background

- **Qt** is a cross-platform application framework
 - It includes:
 - An intuitive class library
 - Integrated development tools (Designer, Linguist..)
 - Desktop & Embedded development support
- **Maemo** is like any Linux distro,
 - It is:
 - based on same standard open source components and debian packaging
 - mobile optimized

Goals of this presentation

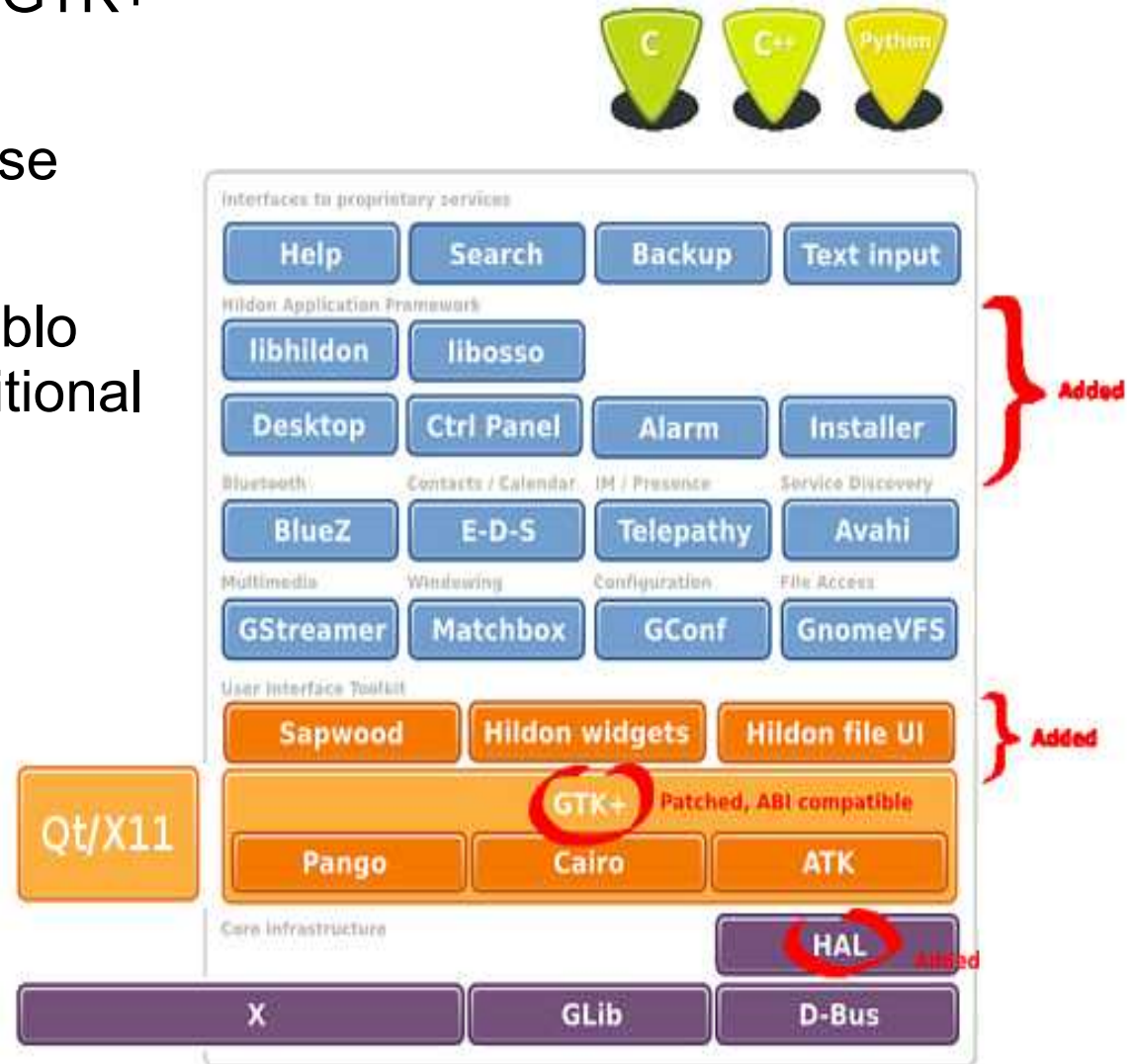
- By the end we hope you will:
 - Have a better understanding of what this port is
 - Understand how to port a Qt application in Maemo
 - Understand how to contribute to this project

Agenda

1. Brief Qt in maemo overview
2. Integration of Qt in Hildon/Maemo
3. Current status & next steps
4. Porting a Qt application
5. Maemo Qt community

Maemo layers

- Original maemo was GTK+ based
- X11 makes easy to use other GUI toolkits
- For maemo up to Diablo release, Qt is an additional component



Maemo roadmap

UI Framework progression



Fremantle
Hildon & GTK+ evolved



Harmattan
Qt integrated



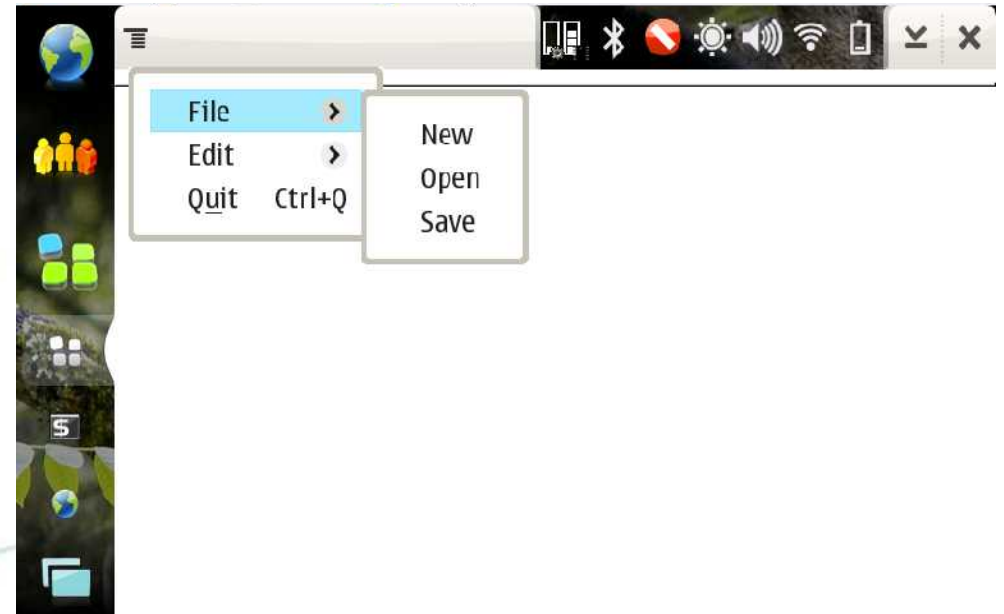
Telepathy

Consolidation of essential parts of the platform

Image: *Industrial-Glade*, by John Brian Silverio. CC Attribution-Non-Commercial-No-Derivative-Works License

Aim

- Aim of our project is to integrate Qt in Hildon
 - Hildon as a new platform branch from X11/Linux for Qt
 - No specific platform code in the application
 - Porting == recompile.

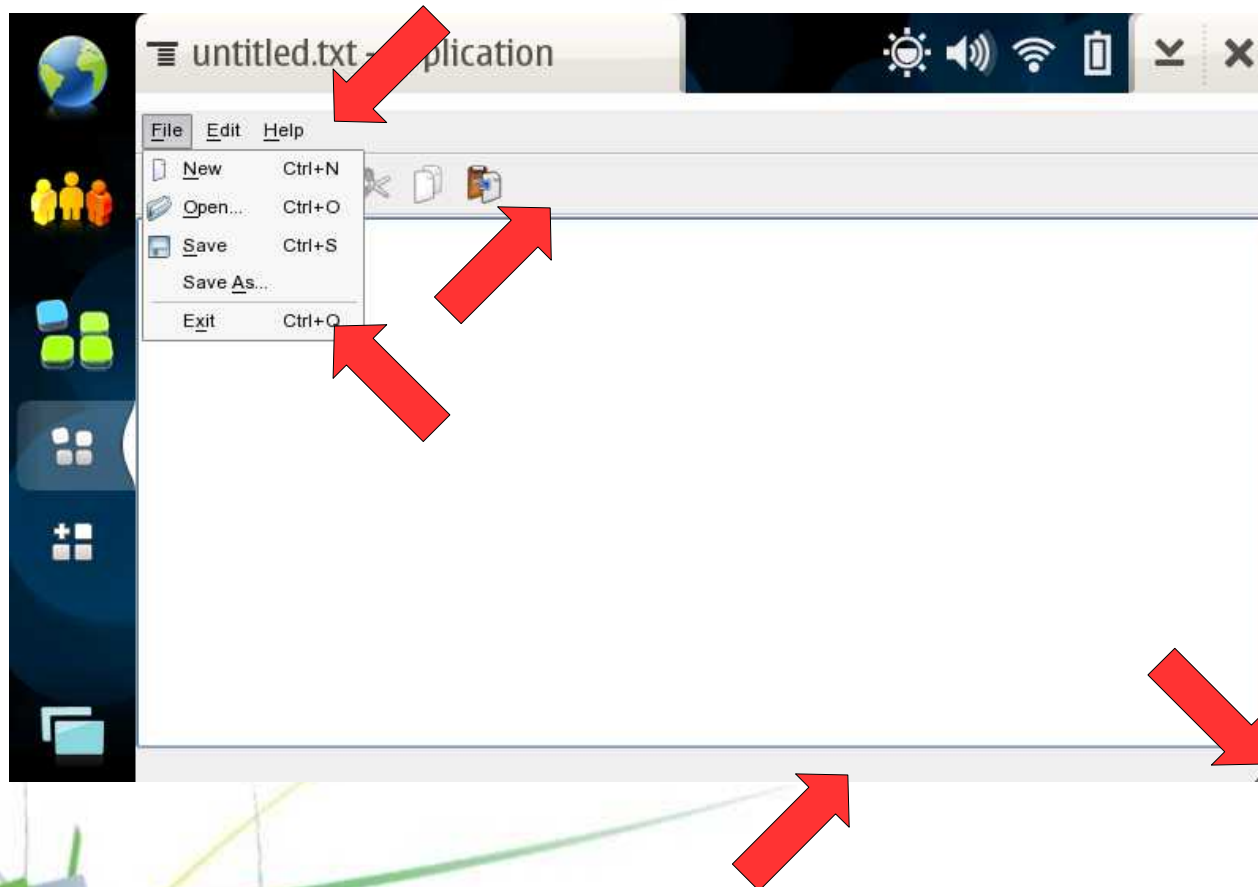


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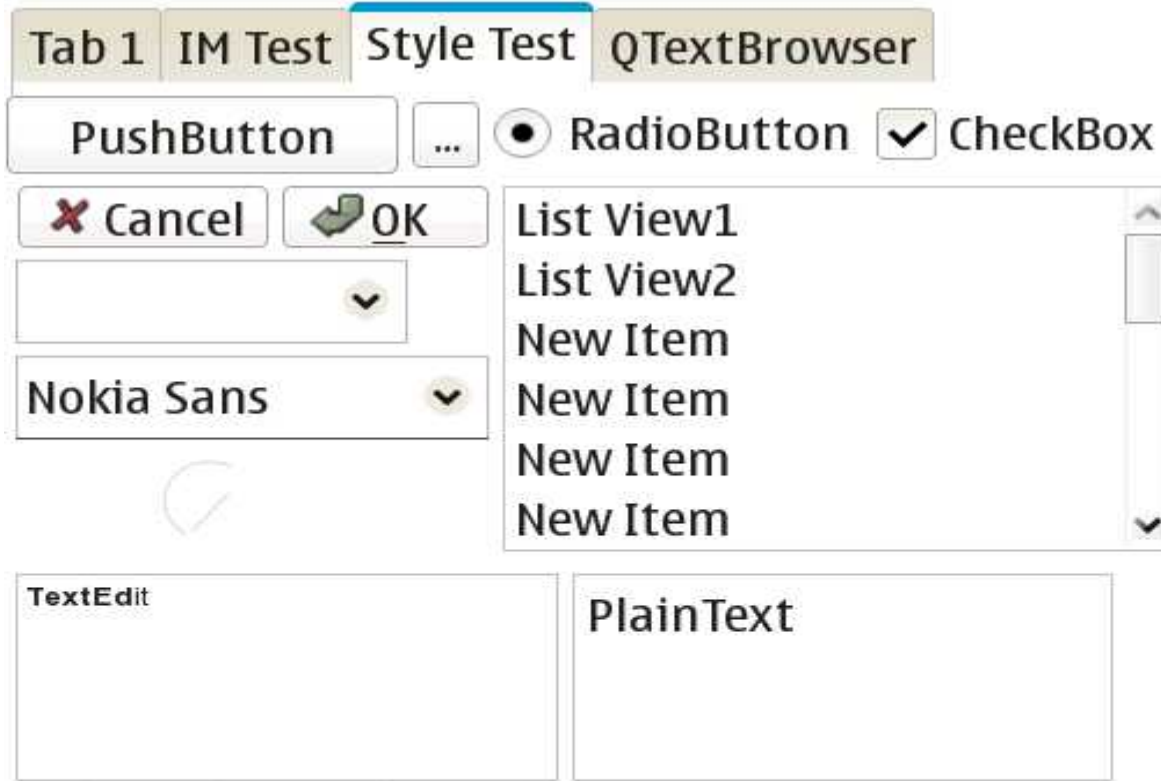
Integration? Why?

- Qt is not integrated in Hildon



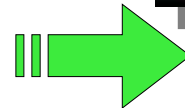
Porting...

- Style = QGTKStyle + Hildon Changes



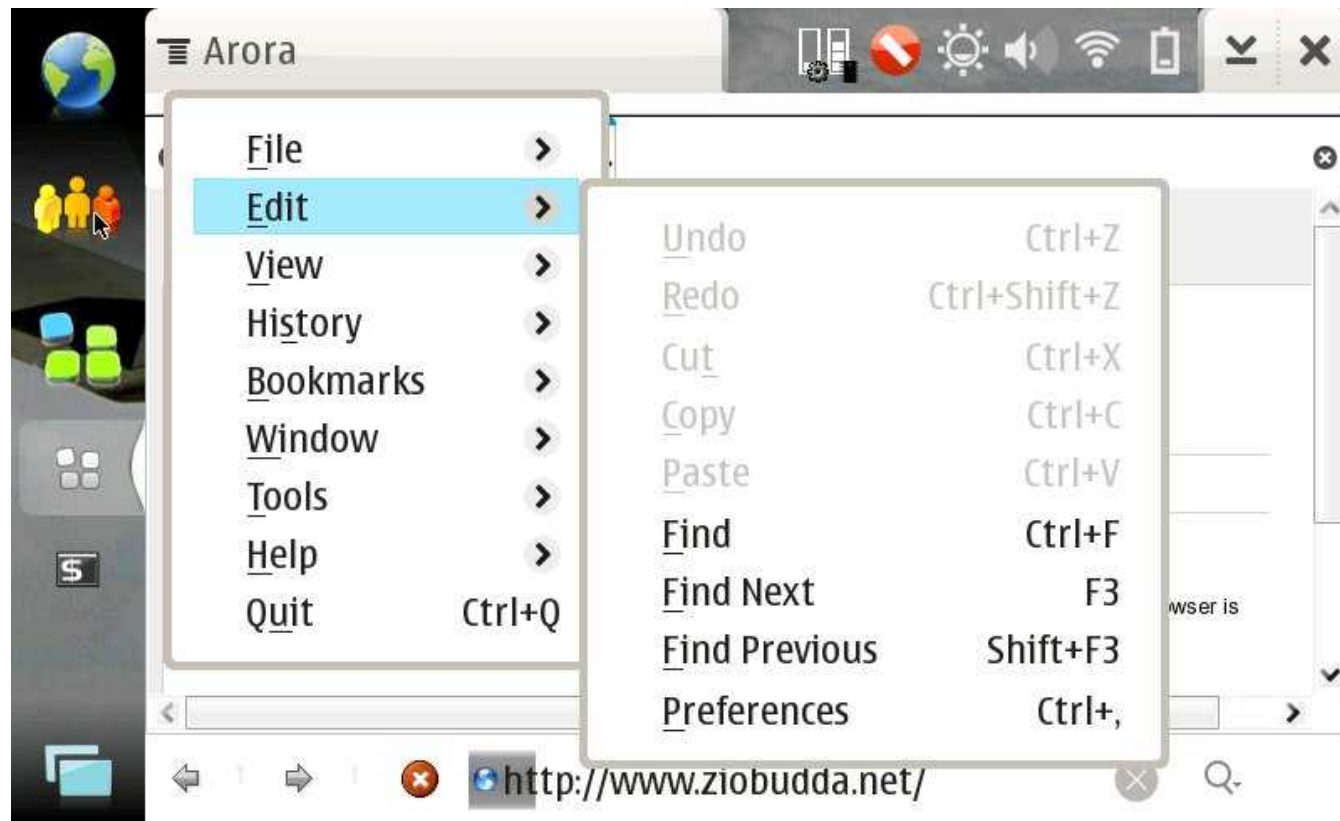
Porting..

- Input Method



Porting.

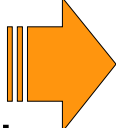
- Menus



Porting

- Other stuff like:
 - Buttons support:
 - Menu button
 - Fullscreen button
 - Adapting some widgets to the device screen
 - eg. QDialog, QMenu position
 - ...

Packaging and Optimizations

- Packages based on official Debian packages.
 - Maemo != Debian  we had to do a lot of Changes
 - Update Dependencies
 - Add Phonon support
 - Remove Qt-OpenGL support.
 - It will be available when OpenGL is supported by Maemo
 - Compile out unnecessary stuff like
 - Some SQL Modules (Eg: Postgress, Interbase..)
 - Print support
 - ...
 - Add ARM VFP technology support

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Currently

- Qt 4 Maemo is updated to the last upstream Qt version (4.4.1)
- Basic functions have been implemented
- Packages are available in diablo extra-devel
- Working focused on:
 - Cleaning
 - Bug fixing

Next steps...

- Moving packages from extras-devel to extras
 - Writing documentation (wiki.maemo.org)
 - Limitations (Eg. No close button for dialog windows)
 - API changes (Very few, but sometime necessary)
 - Tutorials about coding and packaging
- ... all the documentation that you need will be there!

Next steps...

- Finishing the porting:
 - Style
 - Input Method
 - ...
- Using FileDialogs like hildon with Virtual File System Support ... (KIO)

Agenda

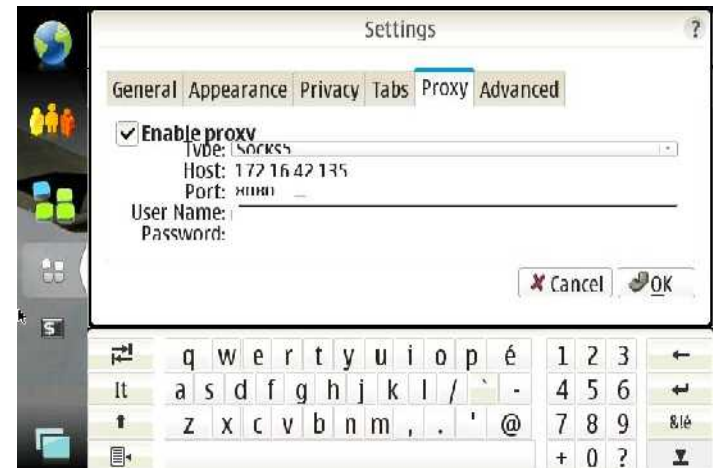
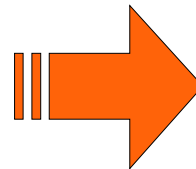
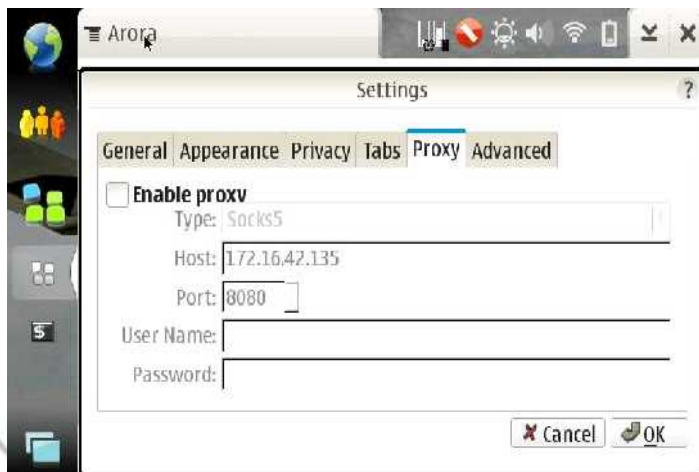
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Porting an application....

- What you need is:
 - A working scratchbox environment
 - Installing the libqt4-dev package
 - Installing the libqt4-*₂-dbg packages to debug your applications

Porting an application...

- Remember that:
 - The screen is small
 - User is using finger or stylus, try to allow using finger always when possible
 - When on screen virtual keyboard is displayed, arrange your dialogs and inputs so that they will fit in same screen.



Porting an application..

- and...
 - Don't use absolute layout; in maemo style, fonts, buttons etc are much larger than in desktop styles
 - Don't use F6, F4 and ESC keys for your application shortcuts.
 - Add a Cancel button to close your Dialogs
 - Not full ported Qt app can use ESC to close Dialogs
 - If possible, avoid to wrap a group of widgets in a QScrollArea in order to fit them in your dialogs
 - Avoid to use Qcleanlook style

Porting an application.

- Not less important is:
 - Packaging your application
 - It's quite simple, it's explained step by step at docs page of Qt4 at garage website.
 - Contacting us everytime that you have/find a problem

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Community support

- We offer/receive community support via
 - Public forum
 - Qt-Devel Mailing List
 - Bug Tracker



Forum

- It is the place where:
 - You can find answers at your questions
 - You don't need a maemo.org account to post there

It's NOT the place where tracking bugs.

Mailing list

- It Is the place where:
 - we discuss about the code, documentation ...
 - you can talk to us about Maemo-Hildon Qt

How to contribute...

- Writing documentation, tutorials...
- Helping us to answer to the forum questions
- Porting Qt applications in Maemo
- Finding and reporting bugs
- Sending us patches

Conclusion

- Qt is powerfull and it has an intuitive API
- Qt applications run everywhere...
- Porting Qt application in Maemo requires very few efforts...
- Packaging Qt application is quite easy!
 - Usually you can use a Debian package.
- Lot of Qt applications in qt-apps.org are waiting to be ported in Maemo by you!!!



Thank you!
Happy hacking with Qt

<http://qt4.garage.maemo.org>