

Desenvolvimento Nokia com Linux

Desenvolvendo aplicações para dispositivos Nokia usando Linux

Francisco Alecrim

Junho 17, 2009



Tópicos

- Plataformas de software usadas pela Nokia
- Symbian
 - Python S60
 - C++ e Qt no S60
- Maemo
 - Python
 - C/C++ e Qt
- MeeGo : Nokia e Intel criando um novo SO



Plataforma usadas pela Nokia



- S40



- S60



- Maemo



Symbian OS - S60



- 1980 – Psion (David Potter)
- 1987 – Psion → EPOC
- 1989 – EPOC16 (MC400 e MC600)
- 1997 – EPOC32 (Osaris)
- 1998 – EPOC → Symbian OS
 - Nokia, Motorola e Ericsson
- 2001 – Symbian OS –
 - Nokia 9210 Communicator
- 2008 – Nokia compra direitos



S60 – Python (install)



- Python S60
 - <http://opensource.nokia.com/projects/pythonfors60/>
- Archivos para download:
 - https://garage.maemo.org/frs/?group_id=854
 - <https://garage.maemo.org/frs/download.php/7486/PythonFo>
- Dependencias no celular:
 - pips.sis – OpenC lib
 - Python_2.0.0.sis – Python
 - PythonScriptShell_2.0.0_high_capas – terminal



S60 – Python (demo)

- Criar aplicação simples em Python
 - *echo "print ("hello pys60");" > hellopys60.py*
- Testar sua aplicação simples
 - *python hellopys60.py*
- Gerar o .sis usando a ajuda do próprio python
 - *python2.5 ensymble.py py2sis hellopys60.py*
- Enviar para celular e se divertir
 - *bluetooth-sendto hellopys60_v1_0_0.sis*



S60 – Python : Amora – controle remoto s60 para seu PC



S60 – C++ e Qt (SDK install)



- Download:
 - S60 Platform SDK para Symbian OS C++
 - Plugin Open C/C++
 - Qt para Symbian versão 4.6.0 RC1
 - CodeSourcery's ARM toolchain para Symbian
 - gnupoc-package-1.13.tar.gz (6.2MB): scripts and patches para rodar Symbian SDK no Linux
 - qt_s60_gnupoc_v10.patch: patch para gnupoc, adicionando o support ao Qt na instalação do Symbian SDK
 - Principais passos na instalação do SDK:
 - Instalar ARM toolchain
 - Instalar GNUPOC
 - Instalar Symbian SDK
 - Instalar Open C Symbian plugin
 - Instalar Qt Symbian
 - Dependencias no celular
 - pips_s60_1_6_ss.sis
 - openc_ssl_s60_1_6_ss.sis
 - stdcpp_s60_1_6_ss.sis
 - qt_selfsigned.sis
 - Compilando aplicação:
 - `./path/to/gnupoc_env.sh`
 - `./path/to/qt_s60_env.sh`
 - `cd path/to/source`
 - `qmake`
 - `make debug-gcce`
 - `make sis # to generate .sis file`
 - Obrigado Lizardo ! :)
- <http://lizardo.wordpress.com/2009/09/24/installing-qt-for-s60-daily-snapshots-on-linux/>



S60 – C++ e Qt (demo)

```
None - Terminator
#include <QApplication>
#include <QPushButton>

int main(int argc, char *argv[])
{
    QApplication app(argc, argv);

    QPushButton hello("Hello world!");
    hello.resize(300, 100);

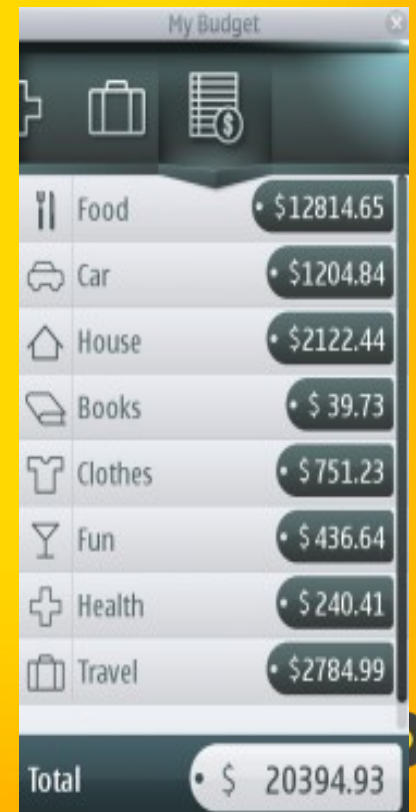
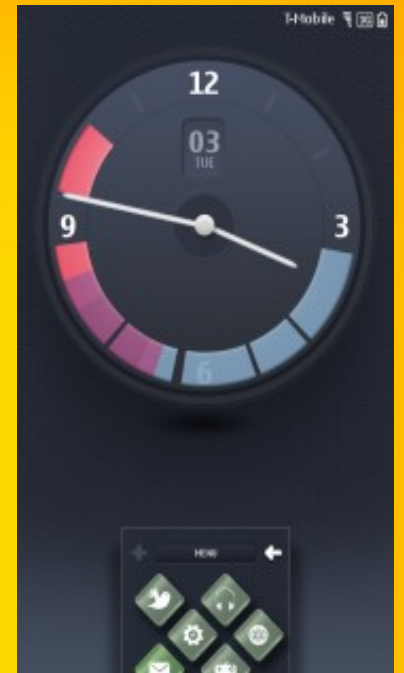
    hello.show();
    return app.exec();
}

15,0-1 All
```

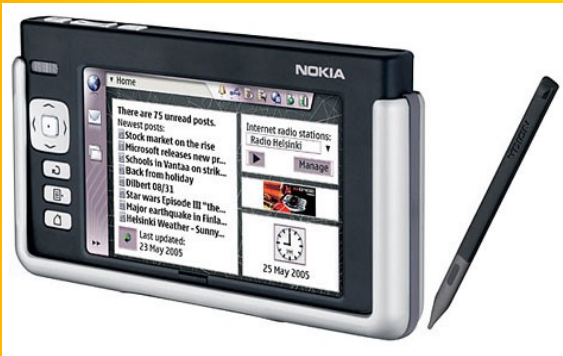
- Gerando aplicativo:
 - ./path/to/gnupoc_env.sh
 - ./path/to/qt_s60_env.sh
 - cd path/to/source
 - qmake
 - make debug-gcce
 - make sis # to generate .sis file
 - bluetooth-sendto file.sis



S60 – C++ e Qt (aplicação)



Linux – Maemo



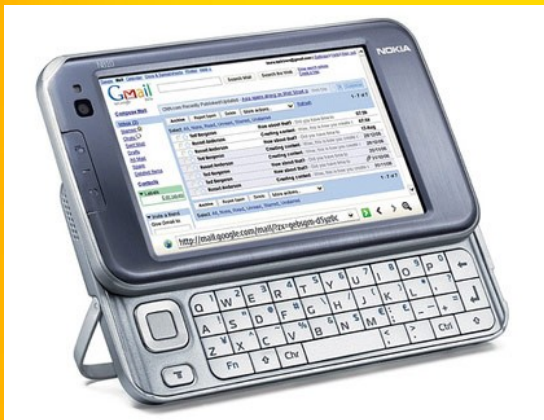
- Nokia 770



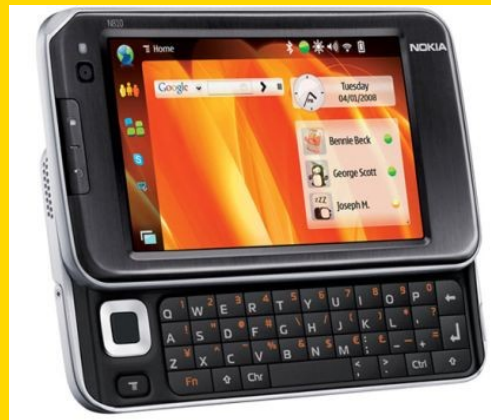
- N800



- N900



- N810



- N810 Wimax



N900



Maemo – SDK install (1/2)



Maemo – SDK install (2/2)



Maemo – Python: demo

```
scratchbox@alecrim - Termina!
#!/usr/bin/python
print("hello pynaemo");
~
~
~
~
~
hello.py 1,1 ALL
install:
install -m 644 hello.py $(DESTDIR)/usr/bin
~
~
~
~
~
Makefile 3,0-1 ALL
"Makefile" 3L, 54C written
```

- Seleccionar entre X86 ou ARMEL
- Empacotando
 - mkdir hello-0.1
 - vim hello.py
 - vim Makefile
 - dh_make -s -n
 - dpkg-buildpackage -r fakeroot
- Enviar o pacote .deb para o dispositivo



Maemo – Qt e C++ (demo)

- Selecionar entre X86 ou ARMEL
- Empacotando
 - mkdir helloqt-0.1
 - vim helloqt.py
 - qmake -project
 - mv helloqt-0.1.pro helloqt.pro
 - qmake
 - dh_make -s -n
 - dpkg-buildpackage -rfakeroot
- Enviar o pacote .deb para o dispositivo

```
scratchbox@alecrim - Terminator
#include <QApplication>
#include <QPushButton>

int main(int argc, char *argv[])
{
    QApplication app(argc, argv);

    QPushButton hello("Hello world!");
    hello.resize(300, 100);

    hello.show();
    return app.exec();
}

~
main.cpp 7,0-1 All
[FORCE:
install -m 644 helloqt $(DESTDIR)/usr/bin

~
Makefile [+] 196,1 Bot
```



Maemo – Qt e C++ (aplicação)



MeeGo – Nokia e Intel criando um novo SO



The screenshot shows the MeeGo website homepage. At the top left is the MeeGo logo. To its right is a search bar with a 'Go' button. Further right are links for 'Login' and 'Register'. Below this is a navigation menu with links for 'Home', 'Downloads', 'Developers', 'Projects', 'Garage', 'Community', and 'About'. The main content area features a large image of hands holding a smartphone. To the right of this image is a 'Welcome to MeeGo!' section with the text 'MeeGo's common core supports development for a variety of devices.' Below this text are icons for 'Netbook', 'Pocketables', 'In-Vehicle', 'Connected TV', and 'Media phone'. Below the main image is a video player with the title 'The Big Merge: A message from the MeeGo Technical Steering Group' and the subtitle 'An Interview with Imad Sousou and Valterri Halla'. Below the video player is a 'MeeGo blog' section with the text 'Latest news from the team' and a small MeeGo character icon. To the right of the blog is a 'What's new' section with the text 'Interesting bits about MeeGo' and another MeeGo character icon. Below the blog is a post titled 'Welcome to MeeGo' submitted by Imad Sousou on 15 February, 2010 - 02:00. The post content starts with 'Hi Everyone' and 'I'm sure you've heard the news: Moblin and maemo are merging! We'. To the right of the post is a small image of two men in suits, with the title 'The Big Merge: A message from Intel and Nokia' and the subtitle 'An interview with Doug Fisher and Ari Jaaksi'.



Referências

- <http://maemo.org>
- <http://forum.nokia.com>
- <http://qt.gitorious.org/qt-labs/mobile-demos/>
- https://garage.maemo.org/frs/?group_id=854&release_id=3264
- <http://gnupoc.sourceforge.net/>
- <http://lizardo.wordpress.com/2009/09/24/installing-qt-for-s60-daily-snapshots-on-linux/>
- <http://www.google.com> :P



Perguntas?

- 1 – <http://www.google.com>
- 3 – README
- 2 – IRC
- 3 – Lista de email



Obrigado!

- Site: <http://franciscoalecrim.com>
- Email: alecrim@gmail.com
- IRC: irc.freenode.net
 - nick: alecrim
 - canais: #bluez , #mamona, #indt, #psl-am

