

Build QT Embedded GUI Application Note V1.0

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Support Chips:

NUC910A

NUC920A

NUC950A

NUC960A

Support Platforms:

Linux



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1. Introduction

NUC900 Linux BSP supports the embedded GUI(QT) system for any applications.
This article describes how to build a QT environment includes QT libraries and demo applications.

2. Solution

2.1. Get QT source code

Users can get the whole QT source code in NUC900 Linux BSP - (/BSP/application/qtopia-core-opensource-src-4.3.3).

2.2. Build the QT source code

1) At the root directory of QT source code, type the command as follow:

```
> ./configure -xplatform qws/linux-arm-g++ -prefix /usr/gui -static -embedded
arm-little-endian -qt-mouse-tslib -L $PWD/lib -I $PWD/include/tslib -qt-libjpeg
-qt-libpng -qt-freetype -no-openssl
```

2) Select 16bpp display

```
Choose pixel-depths to support:

1. 1bpp black/white
4. 4bpp grayscale
8. 8bpp
16. 16bpp
18. 18bpp
24. 24bpp
32. 32bpp

Your choices (default 8,16,32): 16
```

3) Type 'make' to build the GUI system

```
> make
```

4) Install it.

```
>make install
```

The QT demo execute files, fonts, libraries will be installed at '**/usr/gui**' directory on local PC. User must copy those fonts at '**lib/**' to rootfs disk (for example: /rootfs/usr/gui/lib/fonts).

2.3. Use Tslib for touch screen function

- 1) Untar tslib_release.tar.gz
- 2) Copy Tslib related share libraries (*.so) and ts.conf to root file system or other device (such as SD, flash) that can be accessed by application.
- 3) Copy pointercal to **'/rootfs/etc'** folder.
- 4) User can execute 'ts_calibrate' to calibrate touch screen.

2.4. Execute QT application

Need to export those environment variables when those devices are used.

ADC(touch screen):

```
export QWS_MOUSE_PROTO="Tslib:/dev/adc"
export TSLIB_CONFFILE="path of ts.conf file"
export TSLIB_PLUGINDIR="path of *.so"
```

keypad:

```
export QWS_KEYBOARD="kpd:/dev/keypad"
```

Execute xxxx application

```
> xxxx -qws
```

If user wants to use PS2 keyboard or PS2 mouse, MUST do not export any environment variables.

The environment variables can be put into profile under **'/etc'** directory, system will execute it automatically when booting the system.

2.5. QT plug-in driver

If the driver doesn't support by Nuvoton's QT, you can create your own driver using plug-in method of QT.

User can take a look at **'/src/plugins/kbdrivers/keypad'** for example or you can check official website <http://doc.trolltech.com/4.2/plugins-howto.html> for more detail.

3. Revision History

Version	Date	Description
V1.0	Aug. 2008	• Created

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