

QT COMPANY AND WIND RIVER

Qt and Wind River Deliver Robust Feature-Rich User Interface Graphics for Innovative Embedded Devices

The Qt Company and Wind River® have partnered to deliver Qt 5 on VxWorks®, providing powerful, robust user interface (UI) creation tools to develop compelling graphics, smooth animation, and best-in-class user experiences (UX)—all with one click (see Figure 1). This co-engineering effort has resulted in the combination of robust, simplified UI capabilities that are essentially native to the embedded OS. User interactions at the application level are streamlined, using hardware acceleration to provide a smooth experience, even in demanding circumstances—including environments that require real-time, deterministic behavior.



Figure 1. Compelling navigation graphics created with Qt

CUTTING-EDGE CONNECTED DEVICE USER INTERFACES FOR VxWORKS

Qt provides ready-made solutions that speed up embedded UI creation. Qt's enterprise-quality features offer a truly professional development experience, where companies can rely on Qt as a future-proof development strategy for successful, sophisticated, and modern embedded projects. Qt has a collection of modern C++ based libraries with over 700 APIs, and has integrated UI design tools including Qt Creator IDE design UIs, which use Qt Widgets and/or smooth animated UIs with the Qt Quick declarative technology.

Qt's out-of-the-box embedded development functionality coupled with VxWorks delivers a seamless solution that enables customers to create and deploy mission- and safety-critical embedded applications requiring real-time tasking combined with a feature-rich, compelling UI.



Ecosystem Component

- Graphics provider

Solutions

- Qt 5

Value

- Powerful, feature-rich UI creation solution for keeping pace with market demands
- Application development framework for bringing devices to market faster with a unique and modern user interface
- One-click embedded deployment, enabling VxWorks customers to create differentiated and user-appealing devices with advanced, interactive GUIs

Qt's integration of its cross-platform application and UI framework with VxWorks has resulted in a combination of the best of embedded OS technologies with the best-in-class UI (see Figure 2). The result is a cutting-edge, seamless out-of-the-box experience where customers can take advantage of GPU hardware in embedded systems to create a modern, rich visualization environment. This state-of-the-art visualization environment features user interaction and hardware acceleration on a system that has unparalleled real-time deterministic behavior.



Figure 2. Qt's cross-platform 3D data visualization

This comprehensive solution meets the needs of demanding environments in which premium graphics solutions prove to be a significant value-add—for example, in medical imaging (see Figure 3), where the underlying platform provides battle-tested predictability and reliability.

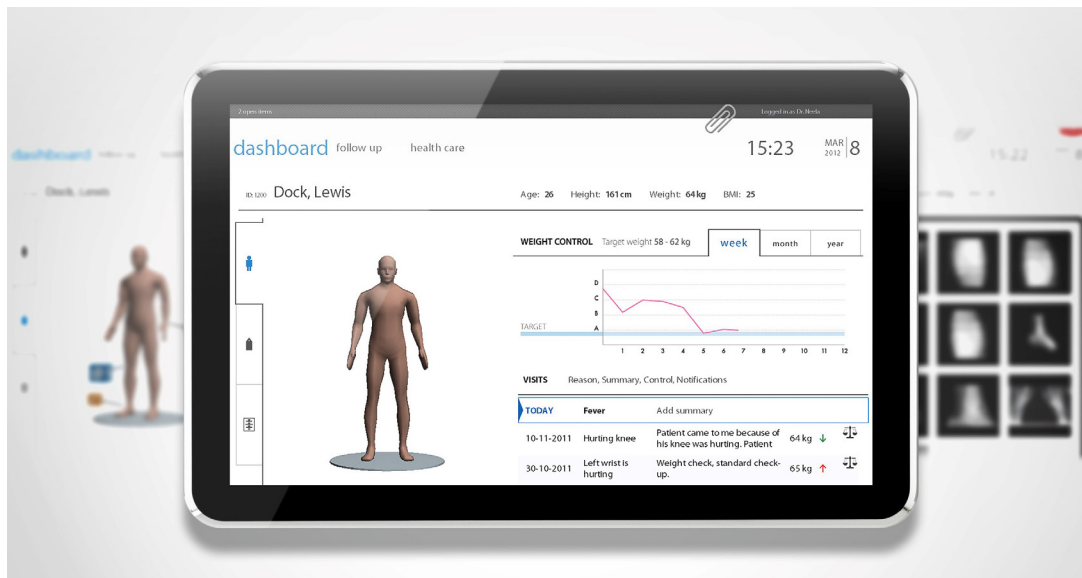


Figure 3. A medical imaging application shown with Qt's modern UI

IMPLEMENTATION AT A GLANCE

Qt Creator IDE includes integrated support for VxWorks. Deployment of Qt application-to-development hardware running VxWorks is accomplished with a simple click. VxWorks development with Qt 5 can be done on both Windows® and Linux development hosts.

The Qt 5 port for VxWorks 7 supports the following Qt modules:

- **Qt Core:** Core Qt object libraries
- **Qt GUI:** Windowing system, event handling, and OpenGL integration
- **Qt Network:** TCP/IP and HTTP
- **Qt Multimedia:** Audio output
- **Qt QML:** QML language and engine infrastructure
- **Qt Quick:** Standard library for QML
- **Qt Quick Controls:** Controls to use in Qt interfaces
- **Qt Quick Dialogs:** Qt dialogs
- **Qt Quick Layouts:** QML types to arrange items in a resizable UI
- **Qt SQL:** Support for SQL databases
- **Qt Test:** Library for unit testing Qt applications
- **Qt Widgets:** Library to create classic desktop-style user interfaces

In addition, the following add-ons are supported:

- **Qt Quick Compiler:** Speedy load time, optimal performance, and increased security
- **Qt Charts:** Creation of interactive and dynamic 2D charts
- **Qt Data Visualization:** Creation of interactive and customizable 3D charts and data visualizations
- **Qt Concurrent:** API for multi-threaded programs
- **Qt Graphical Effects:** Effects such as blending, masking, and blurring
- **Qt Image Formats:** Reading and writing images in PNG, JPEG, BMP, and GIF
- **Qt Platform Headers:** Readers to integrate with other frameworks
- **Qt SVG:** Rendering and displaying Scalable Vector Graphics

WIND RIVER

Powering billions of intelligent devices, VxWorks is the world's most widely deployed real-time operating system (RTOS). It delivers unrivaled deterministic performance and sets the standard for a scalable, future-proof, safe, certifiable, and secure operating environment for connected devices in the embedded market, the Internet of Things, and beyond.

VxWorks supports the broadest spectrum of silicon architectures, including ARM®, PowerPC®, and Intel®. Its portfolio of add-on technology profiles, as well as a large ecosystem of validated complementary third-party solutions, enables customers to differentiate their platforms with best-of-breed capabilities, reduced development costs, and accelerated time-to-market.

MORE INFORMATION

Additional information about VxWorks can be found at www.vxworks.com, or contact [Wind River](#) today.

Additional information about The Qt Company can be found at www.qt.io, or contact sales@theqtcompany.com.

THE QT COMPANY

The Qt Company develops and delivers the Qt development framework under commercial and open source licenses. The company enables the reuse of software code across all operating systems, platforms, and screen types, from desktops and embedded systems to wearables and mobile devices. Qt is used by approximately 1 million developers worldwide and is the leading independent technology behind millions of devices and applications. Qt is the platform of choice for in-vehicle systems, industrial automation devices, and other business-critical application manufacturers, and is used by leading global players in 70+ industries. The Qt Company is owned by the Qt Group, which operates in China, Finland, Germany, Japan, Korea, Norway, Russia, and the U.S., with more than 200 employees worldwide. The Qt Group is headquartered in Espoo, Finland, and is listed on the Nasdaq Helsinki Stock Exchange. The company's net sales in 2015 totaled €27M.

To learn more visit www.qt.io.

SUMMARY

Qt increases UI design productivity with its ready-made controls and out-of-the box functionality, and has the unique capability to adapt quickly to industry-evolving needs. Combined with RTOS leader VxWorks, customers enjoy a powerful solution that enables the creation of premium graphical environments, without any performance compromise.

