Programming with Qt for Embedded Linux

Qt Essentials - Training Course

Produced by Nokia, Qt Development Frameworks

Material based on Qt 4.7, created on August 13, 2010

Qt

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Part 1

- Fundamentals of Qt
  - The Story of Qt
  - Developing a Hello World Application
  - Hello World using Qt Creator
  - Practical Tips for Developers
- Objects in Qt
  - Common Features of Qt's Object Models
  - Object Communication using Signals & Slots
  - Signal & Slot Variations
  - Handling Events in Qt
- Qt Embedded
  - Introduction
  - Embedded Setup
  - Fonts
  - Interprocess Communication
  - Customizing QVFb

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Part 2

- Core Classes
  - String Handling
  - Item Container
  - File Handling
  - Variants
- Widgets
  - Common Widgets
  - Layout Management
  - Guidelines for Custom Widgets
- Painting and Styling
  - Painting on Widgets
  - Color Handling
  - Painting Operations
  - Style Sheets
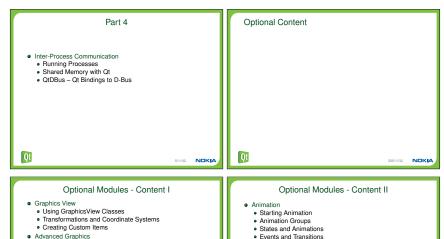
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Part 3

- Application Creation
  - Main Windows
  - Settings
  - Resources
  - Translation for Developers
  - Deploying Qt Applications
- Dialogs and Designer
  - Dialogs
  - Common Dialogs
  - Qt Designer
- Qt Embedded Adaptation
  - Display Management
  - Pointer handling
  - Key Handling
  - Window decoration
  - Feature configuration
  - Performance Tuning

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Part 4

- Inter-Process Communication
  - Running Processes
  - Shared Memory with Qt
  - QtDBus – Qt Bindings to D-Bus

Optional Content

Optional Modules - Content I

- Graphics View
  - Using GraphicsView Classes
  - Transformations and Coordinate Systems
  - Creating Custom Items
- Advanced Graphics
  - QImage
  - Custom Image Formats
  - Coordinate Systems
  - OpenGL in Qt
- Multimedia
  - Playing Sounds
  - Multimedia with Phonon

Optional Modules - Content II

- Animation
  - Starting Animation
  - Animation Groups
  - States and Animations
  - Events and Transitions
- Gestures
  - Introduction to Gestures
  - Recognizing Gestures
- Multitouch
  - Starting Multitouch
  - Touch Events

Optional Modules - Content III

- Development Process
  - QMake
  - Some Thoughts About Portability
  - Qt Debugging Aids
  - Development Tools for Linux
  - Qt Licensing
  - Shipping Qt With Your Application
  - Unit Testing with QTestLib
- Other IDEs
  - Visual Studio Integration
  - Eclipse Integration
  - KDevelop

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Optional Modules - Content IV

- Model/View
  - Item Widgets
  - Model/View Concept
  - Custom Models
  - Item Views
- Application Scripting
  - Qt Script
  - Debugging Scripts
- Multithreading
  - Multithreading I
  - QtConcurrent (Multithreading II)
  - Multithreading III

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Optional Modules - Content V

- Specialized Widgets
  - Emulating MDI with QMdiArea
  - Scroll Areas
- Native System Integration
  - ActiveQt
  - Migration Techniques
  - Migrating Motif programs to Qt
- Widget Styles
  - Widget Styles
  - Custom Widget Styles
  - Translucent and Shaped Windows

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Optional Modules - Content VI

- Advanced Xml Processing
  - XQuery, XPath and XSLT
  - XML Schema
- Network Programming
  - The Network Module
  - Protocols
  - Request / Reply
  - TCP/UDP Sockets
  - SSL Sockets
  - DNS and Proxies
- The Event System
  - Synthetic Events

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Optional Modules - Content VII

- WebKit
  - WebKit
  - QWebView
  - Settings
  - Accessing the DOM

- Text Processing
  - Validating Input
  - Rich Text Editing and Processing

- Other Topics
  - Memory mapped files
  - Timers