Code less.
Create more.
Deploy everywhere.

1, Qt, Profit!
Developing for Nokia Platforms

Daniel Molkentin
Nokia, Qt Development Frameworks

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What will be covered?

- What is Qt?

- Some facts about Nokia Smartphone Platforms

- How to target write apps for Maemo and Symbian using Qt

  - Features

  - Pitfalls

- Qt Quick: The future of Qt

- Q & A

"Why should I bother?"

- Ovi Store
  - 1.5M downloads/day
  - 22 downloads/second
- Symbian sells
- Because it's Qt -> It's fun!

Company	Units
Symbian	**24,069.8**
Research In Motion	10,552.6
iPhone OS	8,359.7
Android	5,214.7
Microsoft Windows Mobile	3,706.0
Linux	1,993.9
Other OSs	404.8
Total	**54,301.4**

1Q10 Worldwide Smartphone Sales (in thousands)
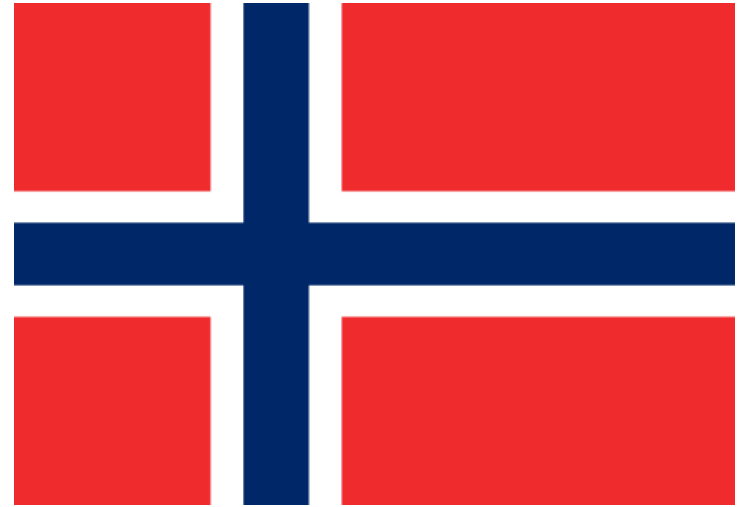*(Source: Gartner)*

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Yours Truly

- Developer and Promoter for the KDE Project since 2000
- Ran the Free Software Lab of this very university for a while
- Author of *The Book of Qt 4* (NoStarch/Open Source Press)
- Planned to join a small Norwegian company about two years ago
- Joined a big Finnish company instead
- Working for Nokia Qt Development Frameworks
  - Qt Tools Team in Berlin
    - Qt Creator in particular

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"Norway is cool, why did you join that Finnish company instead?"

- I get that one a lot ;-)
- Nokia bought Trolltech in 2008.
- Two Smartphone Platforms, one API
  - Qt to the Rescue!
- A few challenges on the way
- But I digress...

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"So... What's |kyoōt| anyway?"

Qt SDK Nokia Qt SDK

Qt modular class library

Core
GUI
Declarative /
QML
WebKit
Graphics View
Scripting
OpenGL

XML
Multimedia
Database
Network
Unit Tests
Benchmarking

QtMobility

Qt development tools

Qt Creator
Cross-platform IDE

Qt Designer
GUI designer

Qt Assistant
Help reader

Qt Linguist
I18N Toolset

qmake
Cross-Platform
Build Tool

Cross-platform support

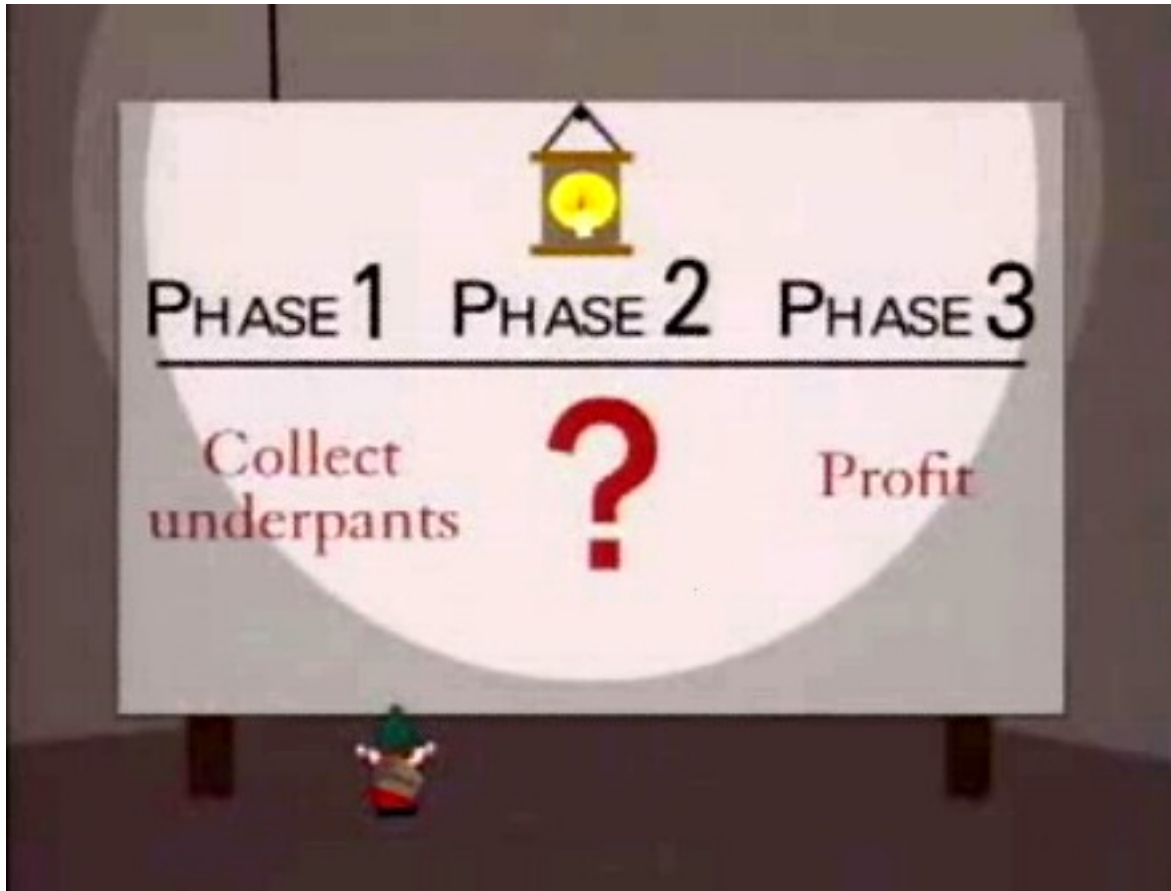| MeeGo | Symbian | Embedded Linux | Windows | Mac | Linux/X11 |

Chipsets

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"So, what is this weird title about?"

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Solving Step 2

- Nokia Qt SDK 1.0
  - Qt Creator 2.0
  - First set of Mobility APIs
- N900 PR 1.2, N8 with Qt 4.6
- Symbian Smart Installer for S60 5.0 phones
- Affordable Symbian Signing
- Ovi Store is open to Individuals
- Finally: Sane APIs on all Nokia Smartphone Platforms
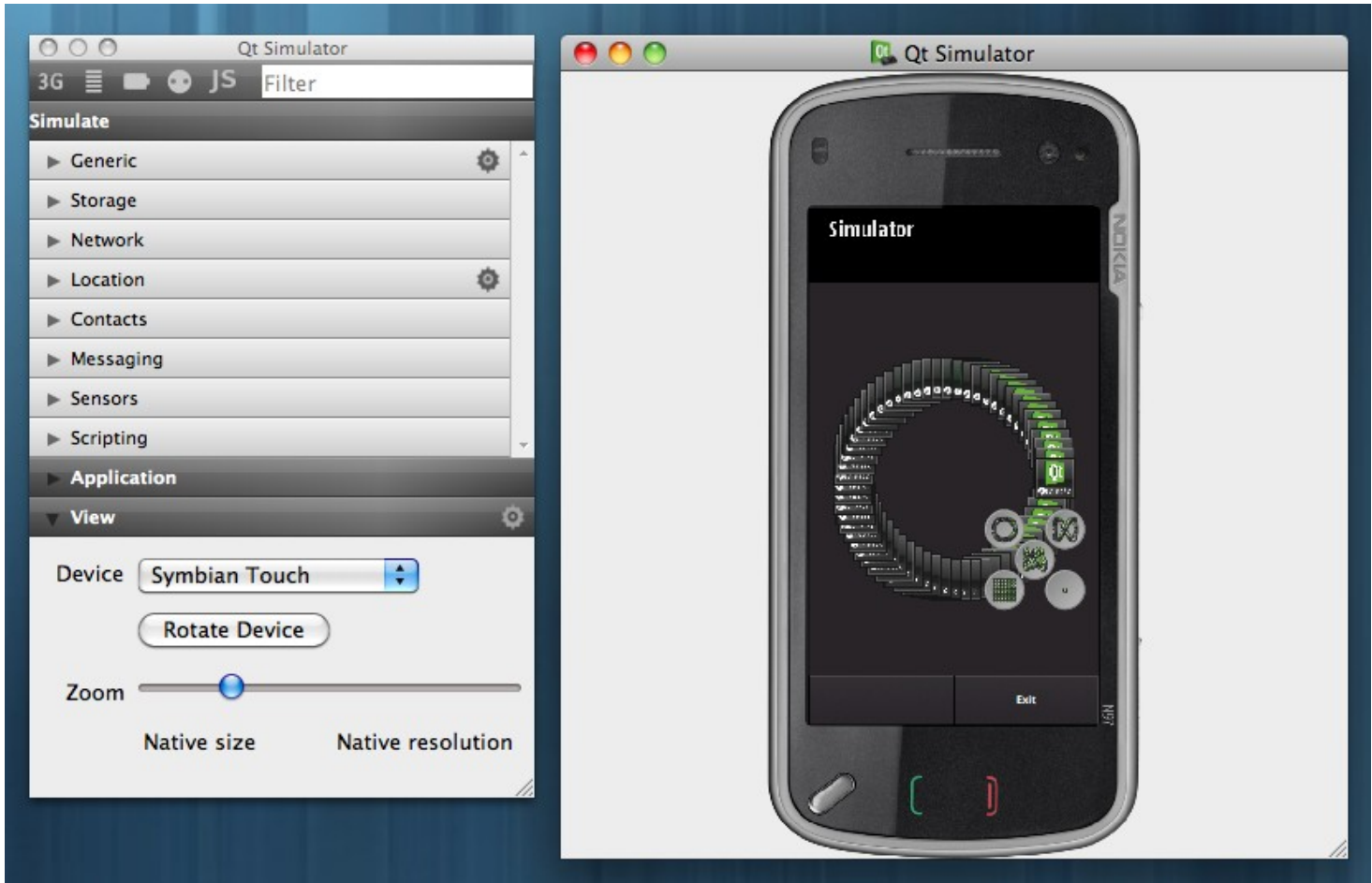- Next Step: More of the same code for all Smartphone Platforms

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Ovi Store / Symbian Signing

*"The Qt SDK now includes the final version of the Nokia Smart Installer for Symbian. Smart Installer eliminates the need for Symbian apps to bundle the Qt framework in distributed SIS files. When an app packages with Smart Installer is installed by the user **it checks for the presence of the Qt packages, downloading and installing any needed by the app that are not on the device**.*

*Qt based apps for Symbian devices using Smart Installer can now be submitted to the Ovi Store. In addition, the **Ovi Store will now undertake the signing of these apps**. This not only opens up a huge market to Qt developers, but also removes the burden of cost and challenge of signing apps using Smart Installer from developers."*

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Qt SDK: Simulating Devices

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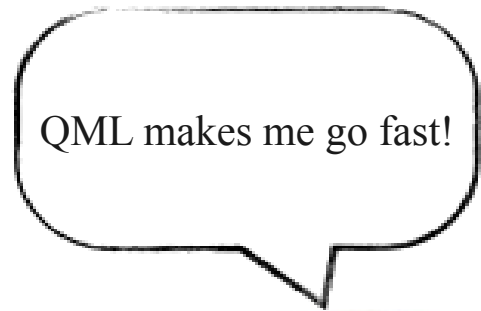
Qt
Code less.
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Demo: Qt-Application on N900

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Aiming for Step 2.5

- Qt Quick (QML, Tooling)
- Qt Components
- Qt Creator 2.1, 2.2
- Qt 4.7 on Devices

QML makes me go fast!

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"Qt Quick? QML? Qt Components?"

- Qt Quick is an umbrella term for **QtDeclarative**, **QML** and **Creator,** QML = Qt Meta-Object Language
  - Declarative Language (JavaScript inspired, not XML-based)
  - Supports JavaScript
  - Builds on Qt
- Components are created from smaller order / simpler elements
  - Build your own button
  - Ready-made Widgets are being worked on: **Qt Components**
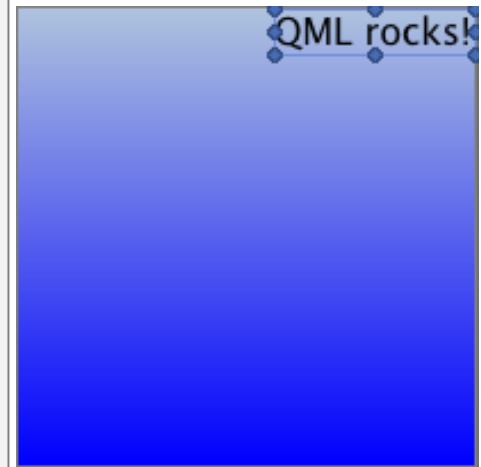
"Qt Quick? QML? Qt Components?" (2)

- QML Supports States and Animated Transitions
    - Configurations of properties, and interpolating between them
- Based on QGraphicsView
    - Integrates with pre-4.7 Widgets and Animation API
- Qt Creator provides a Visual Editor (Preview) and Visual Debugger (think FireBug)
- 2,5 D Animation, 3D Animations in Research State

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QML Example

```qml
import Qt 4.7

Rectangle {
    width: 200; height: 200
    gradient: Gradient {
        GradientStop { position: 0.0; color: "lightsteelblue" }
        GradientStop { position: 1.0; color: "blue" }
    }
    Text {
        id: myText
        text: 'QML rocks!'
        anchors.right:parent.right
        anchors.top:parent.top
        font.pointSize:16
    }
}
```

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Conclusions

- Qt helps with Platform Development

- Native Platform Code still sometimes needed

    - QML and Qt Components to the Rescue

    - Mobility APIs will be completed soon

- sis/deb Package creation works

    - Ovi deployment will be made more convenient

- Symbian toolchain only on Windows

    - Remote compiler to the rescue

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Thank you for your attention!

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References

http://qt.nokia.com

http://labs.qt.nokia.com

http://forum.nokia.com

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Backup Slides

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Mobility APIs

- Existing (1.0) APIs
  - Bearer Management
  - Contacts
  - Location
  - Messaging
  - Multimedia
  - Publish & Subscribe
  - Qt Services Framework
  - Sensors API
  - System Information
  - Versit/vCard API

- 1.1 APIs (Tech Preview)
  - Service Framework API (Out-of process)
  - Document Gallery API
  - Maps/Navigation API
  - Organizer API
  - Landmarks API
  - Camera API
  - Versit/Organizer API
  - Telephony Events API
  - Feedback API
  - Contacts API

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"Sounds too good to be true, where are the downsides?"

- Well…

- Symbian compiler only on Windows
  - Remote compilation

- Mobility APIs not complete
  - More are on the way

- Platforms use different UI layers
  - QML, Qt Components to further unify developer experience

- Final Ovi Store Upload is still manual
  - Qt Creator will be tackling this