The history and future of Qt

9th FRUCT conference
Petrozavodsk - Russia

by Knut Yrvin – April 2011
Knut Yrvin
Open Source Community Manager

- Telenor in 1986 – technical assistant
- Engineer in electronics – 1992
- Telenor – project planning – 1993
- Master in system development – 2000
- Consultant for three years
  - Norwegian Central Securities Depository, different banks and other industries
- Co-founded Skolelinux in 2001
  - Now a part of Debian Edu
- Trolltech ASA – 2006,
- Qt Software, a Nokia Company – 2008
Finalist Norway got Talent 2010
Agenda

• Qt History
  • How it was developed
• Qt in the future
  • Addressable markets
Qt: A brief introduction

Qt Software (formerly Trolltech) founded in 1994

- Trolltech acquired by Nokia in 2008
- More than 300 employees in 8 locations worldwide
- Trusted by over 4,000 customers worldwide

Qt: a cross-platform application and UI development framework

- For desktop and embedded development
- Used by more than 400,000 commercial and open source developers
- Backed by professional services, support and training
Qt overview

Qt: a tool for software developers to make the user experience better on different types of displays (devices, desktops, machines...)

Using Qt, you can write applications once and deploy them across devices based on different operating systems reusing the source code.
Qt is used everywhere on any form factor

From embedded devices to desktop applications

By companies from many industries

© Nokia 2011
Google Earth
400% Growth since 2008

Qt downloads, estimated

2,0M
1,6M
1,2M
0,8M
0,4M

2007
2008
2009
2010

Trolltech
Trolltech
Nokia
Nokia

Added LGPL license option
# Qt licenses support all business models

<table>
<thead>
<tr>
<th></th>
<th>Commercial</th>
<th>LGPL v. 2.1</th>
<th>GPL v. 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>License Cost</strong></td>
<td>License fee charged</td>
<td>No cost</td>
<td>No cost</td>
</tr>
<tr>
<td><strong>Must provide source code for changes to Qt</strong></td>
<td>No, modifications can be closed</td>
<td>Source code must be provided</td>
<td>Source code must be provided</td>
</tr>
<tr>
<td><strong>Can create proprietary application</strong></td>
<td>Yes—no obligation to disclose source code</td>
<td>Yes, if dynamically linked to Qt library</td>
<td>No, application is subject to the GPL</td>
</tr>
<tr>
<td><strong>Support</strong></td>
<td>Yes, with valid maintenance agreement</td>
<td>Not included, available separately</td>
<td>Not included, available separately</td>
</tr>
<tr>
<td><strong>Charge for Runtimes</strong></td>
<td>Yes—in some instances*</td>
<td>No, distribution is royalty free</td>
<td>No, distribution is royalty free</td>
</tr>
</tbody>
</table>

---

*Runtime charges apply when the Qt-based application is part of a joint hardware and software distribution and the main UI of the device is controlled by Qt.*
The virtuous cycle

- Increased use of Qt
- Faster pace of innovation = a better Qt
- Larger Qt ecosystem
- More feedback & contributions
Open Governance

To empower community contributors, Open Governance will provide

- **Fair**: treat everyone under the same rules\(^1\)
- **Transparent**: no behind-the-scenes decisions
- **Inclusive**: everyone is welcome to join and contribute according to their skills
- **Meritocratic**: rights and duties according to dedication and work

**Do-ocracy** - Those who contributes will be recognized

\(^1\) Except where otherwise required by Law or current legal obligations

\(^2\) You can talk as much as you want. Those who contributes decides
How Qt started

History 101
State-of-the-art UI Widget
Challenge #1
= \sim 200\text{ LOC}
How the whole started

A park bench in Trondheim, Norway – 1990

“We need an object-oriented presentation system”

- Haavard Nord and Eirik Chambe Eng
Idea behind Qt

- Framework for Graphical User Interfaces (GUI)
  - Easy to use
  - Works well
- Windows and UNIX
• 40 new classes
• Adaptive Look & Feel
• Unicode support
• Printing
• Mouse Wheel
Qt 2 - Designer
Sharp Zaurus in 2002

+ Qt Embedded started in 2000
+ Kick starting Open Source development for embedded
+ 1200 free software applications available for Zaurus and Open Embedded today
Desktop applications on «mobile» devices
On maemo.org you will find more information on what Maemo software is, how to develop with Maemo, and how to make your development work available to users. On maemo.nokia.com you will find more information about the N900 mobile computer powered by Maemo.
Qt 3

- 42 new classes
- Rich Text support
- Table Widget
- Accessibility
- XML
- Database
- Network
- IO
Qt Linguist is a localization tool developed by Trolltech. It is used to manage translations of software applications. The tool allows developers to manage translations in a variety of formats, including .ts files.

The image shows the user interface of Qt Linguist, with a list of files on the left and a table on the right. The table contains columns for 'Done', 'Context', 'Items', 'Source text', and 'Translation'. The source text and translation are shown for the following entries:

- **XIM**: XIM input method
  - **Méthode d'entrée XIM**
- **Windows input method**: Méthode d'entrée Windows
- **Mac OS X input method**: Méthode d'entrée Mac OS X

Below the table, there is a section labeled 'Phrases and guesses' which lists more translations that can be used.

This tool is essential for localization teams to ensure that software applications are translated accurately and consistently across different languages.
Qt 4 - QGraphicsView
Qt 4 - Perspective

Transformation:

0.270167  -0.259700  -0.000612
-0.532667  0.300367  -0.000783
268.000000  171.000000  1.000000
Ring inte än Pernilla. Vi är bjudna precis sju och klockan är bara en minut i sju.
Qt 4 - CSS Widgets
Interesting changes
Typical Linux desktop in 1996
KDE
15 year of building better software with Qt

> 5000 applications
Qt

Typical phone UI 2008

© Nokia 2011
Next gen phone UI
Touch and animations
If you think this was big changes?
Biger changes are already implemented
Integrating Web into your apps
Touch and rotate
Animation with Qt Quick
Adressable Qt marked
Qt is default on Symbian

100 Million + 150 Million = 250 Million

Installed

To be sold

Symbian

© Nokia 2011
Open Source Convergence – A game changer
300% relative growth in Qt jobs
Qt in 70 industries

Innovation can come from anywhere...

Qt Ecosystem
Applications - Services - Add-ons

Mobile
Consumer Electronics
Industrial Embedded
PCs

© Nokia 2011
Knowing Qt and Qt Quick

You are prepared!
Thank you!

Q & A