Qt (cute) Development Frameworks

The history and future of Qt

9th FRUCT conference
Petrozavodsk - Russia

by Knut Yrvin – April 2011

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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

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Finalist Norway got Talent 2010

Agenda

- Qt History
  - How it was developed
- Qt in the future
  - Addressable markets

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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

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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.

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Qt is used everywhere on any form factor

From embedded devices to desktop applications

By companies from many industries

AMD
Google
Canon
Alcatel·Lucent
BT
DAIMLER
EPSON
esa
freescale semiconductor
HITACHI
Inspire the Next
GENERAL DYNAMICS
C4 Systems
Mentor Graphics
PGS
HONDA
The Power of Dreams
MITSUBISHI HEAVY INDUSTRIES, LTD.
NORTEL NETWORKS
ORACLE
PHILIPS
Pioneer
skype
Raytheon
Schlumberger
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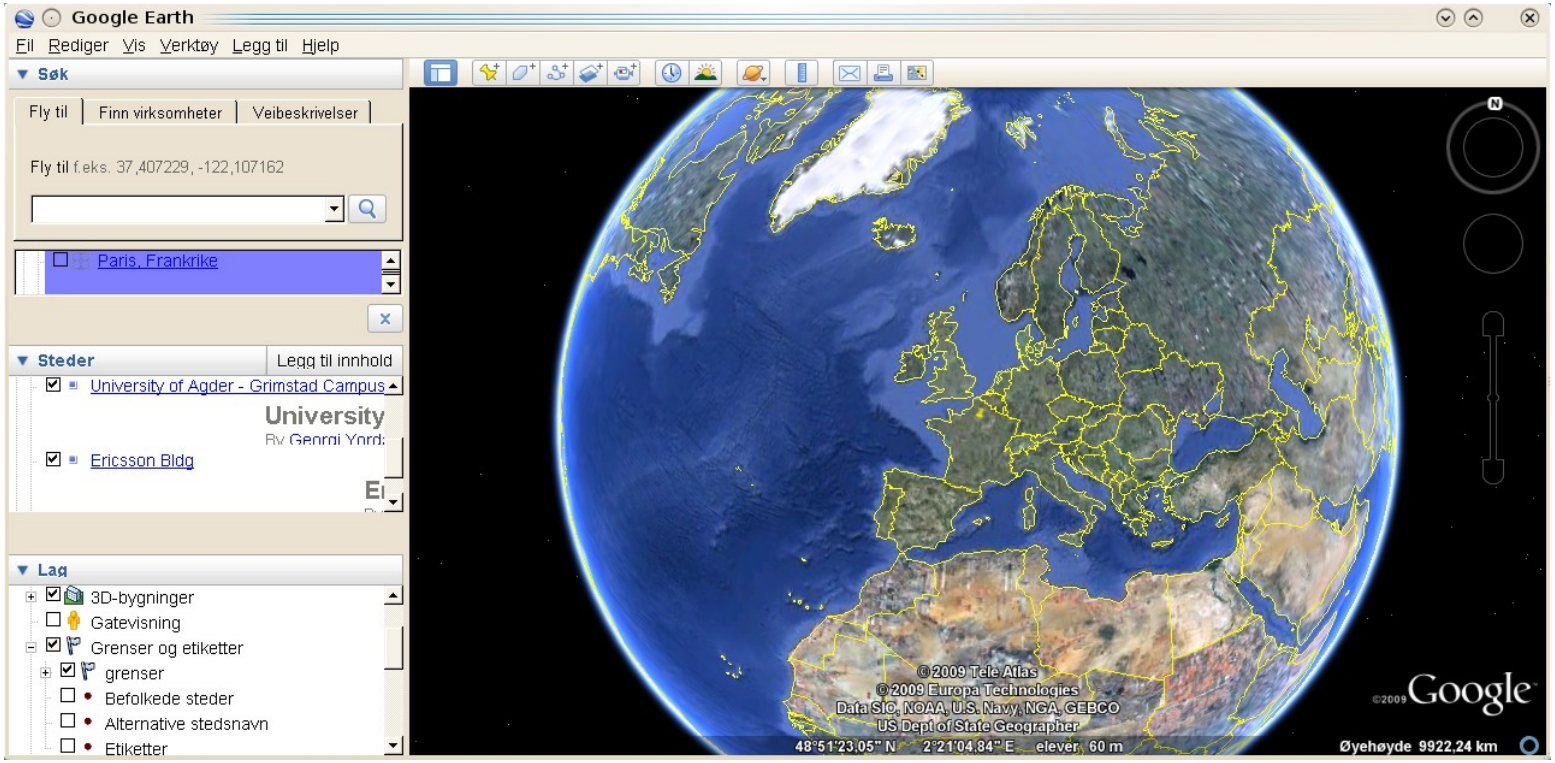
Google Earth



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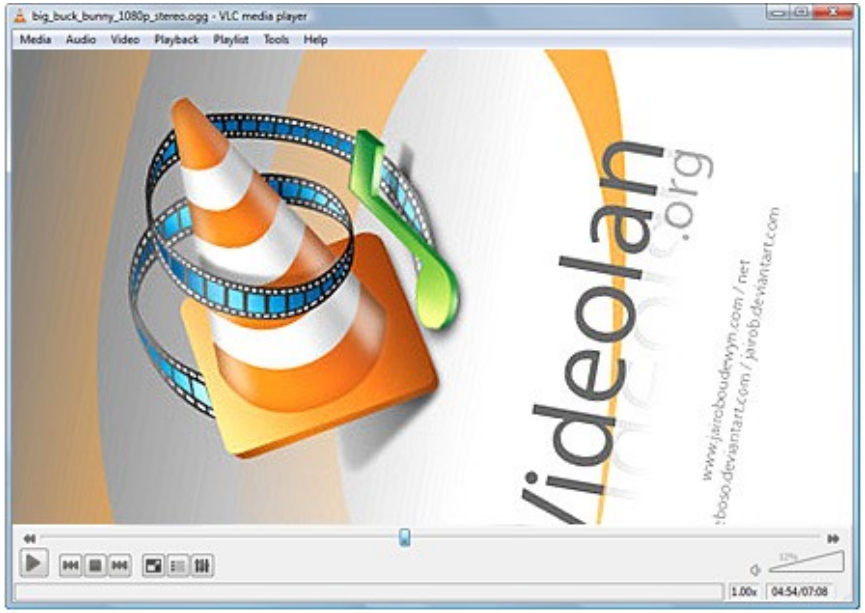
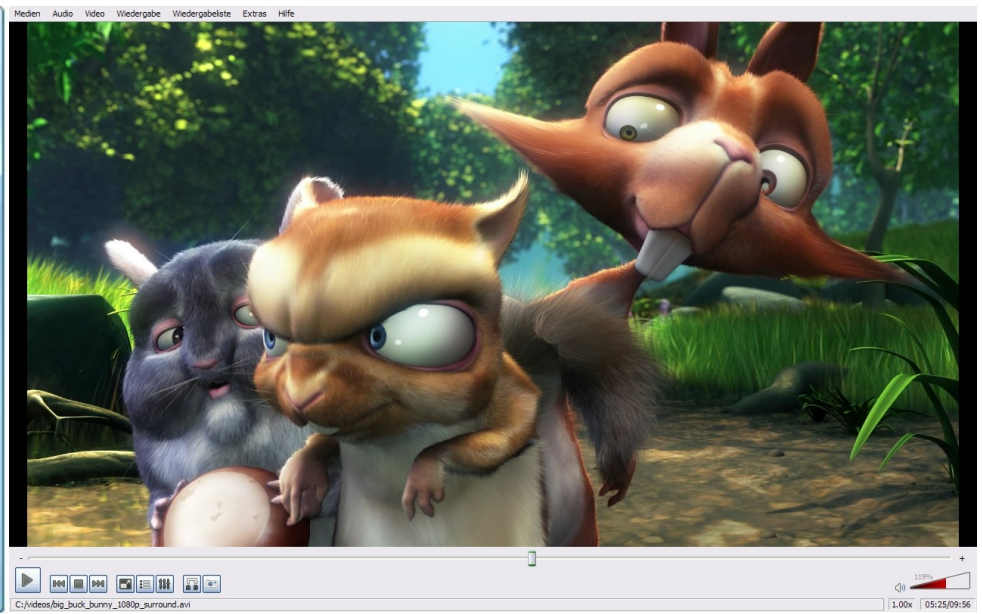
Qt VLC





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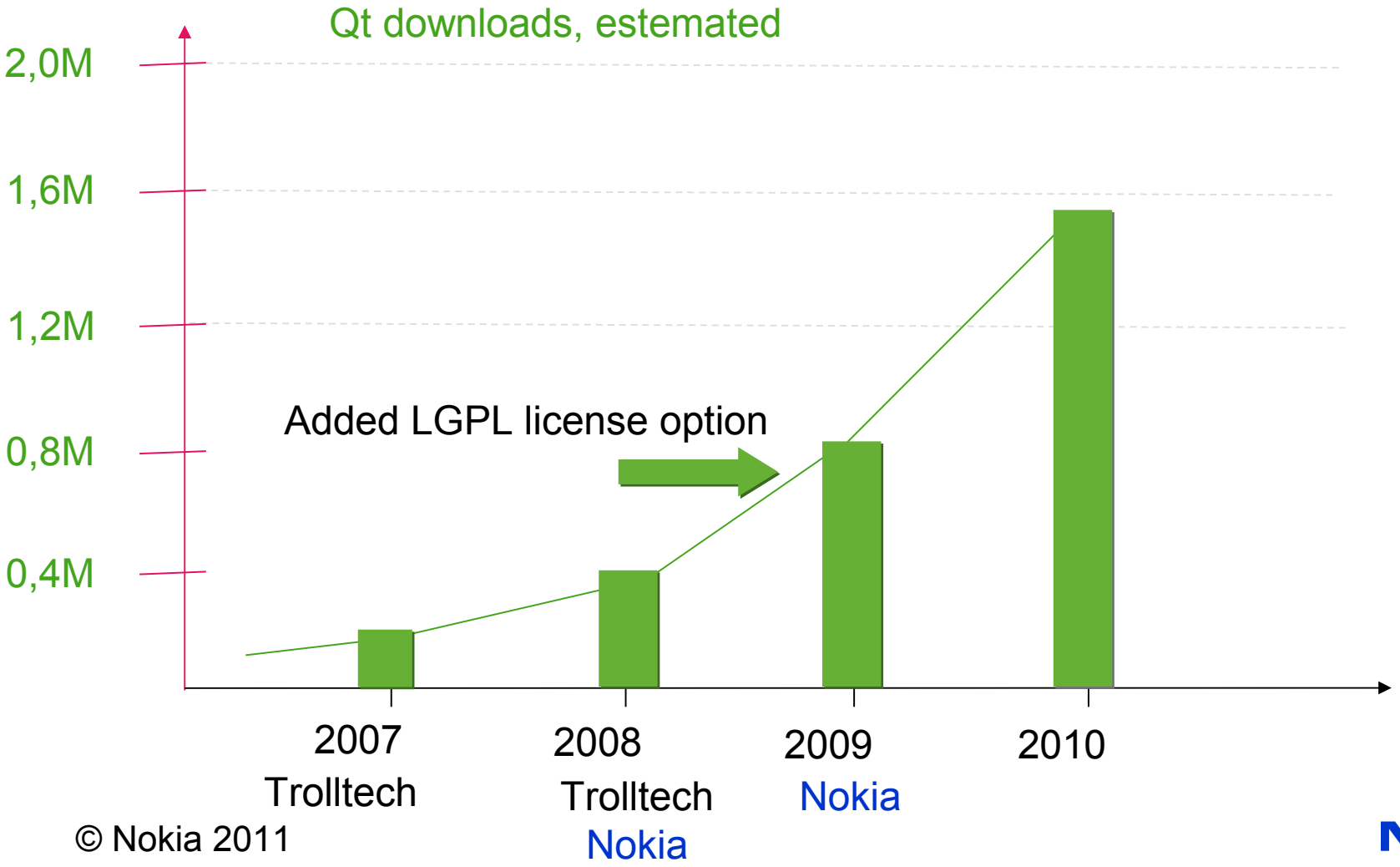
400% Growth since 2008



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Qt licenses support all business models

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

*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.

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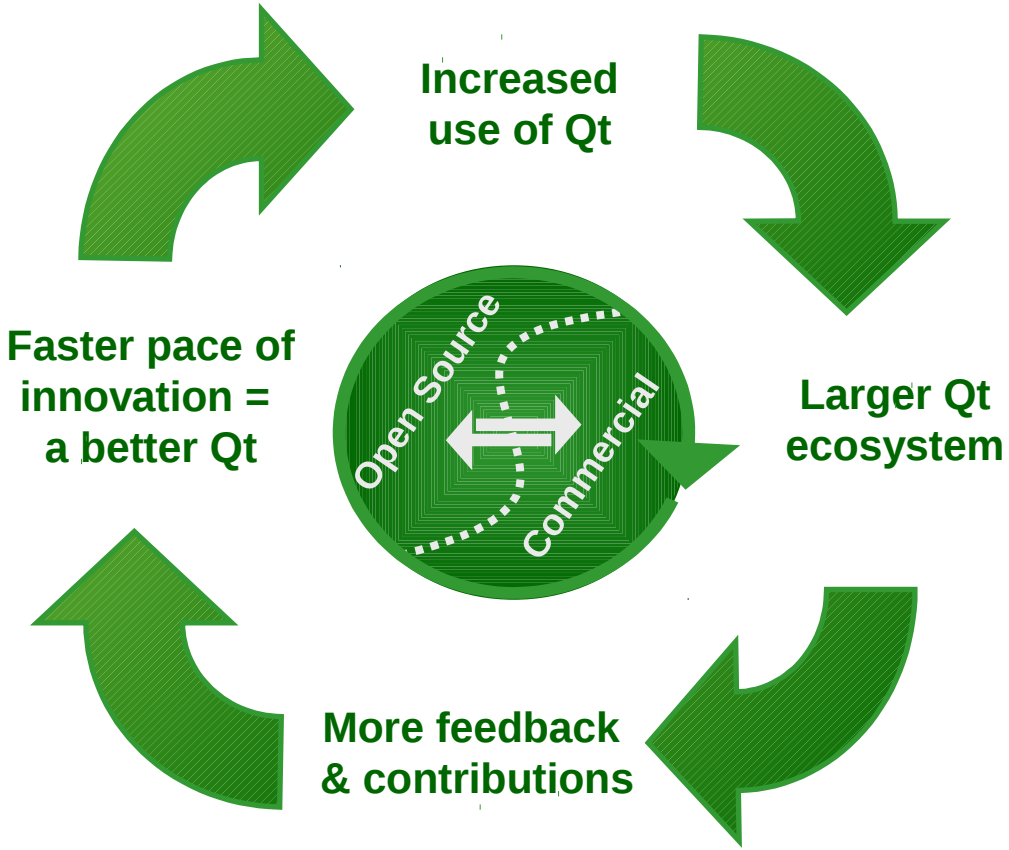
The virtuous cycle



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Open Governence

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

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How Qt started

History 101

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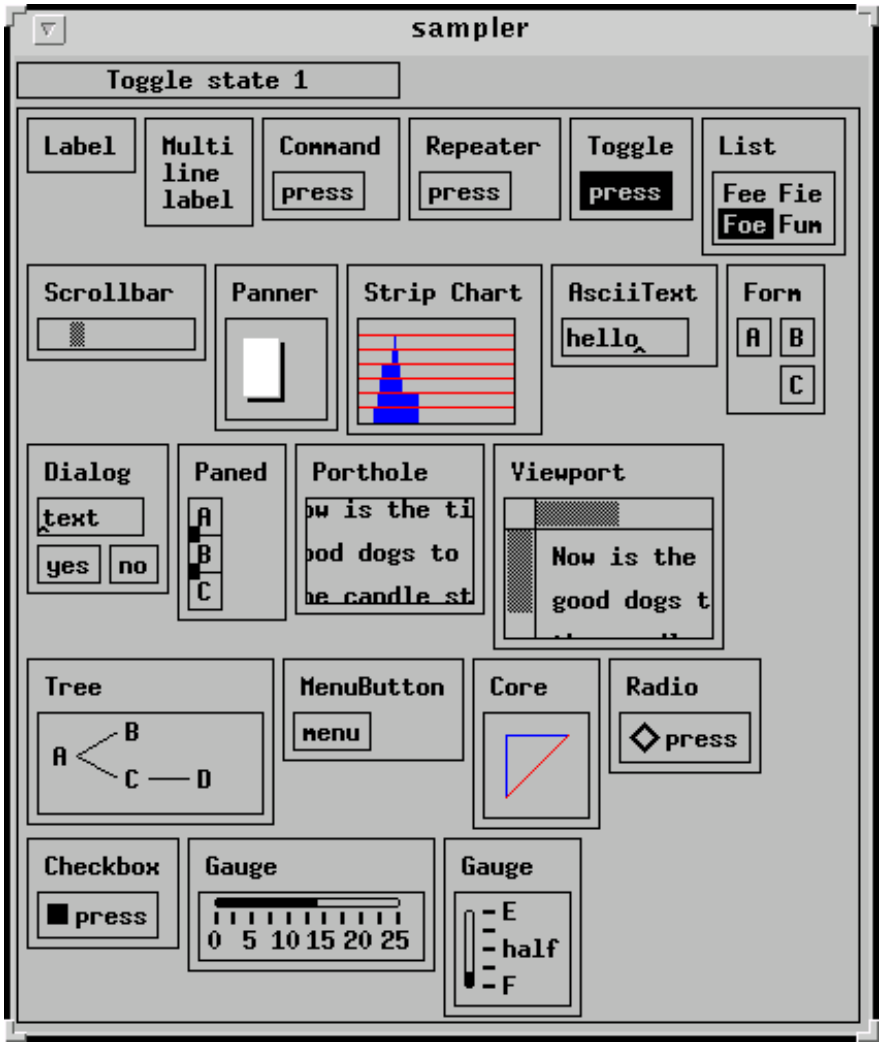
State-of-the-art UI Widget



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Challenge #1

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= ~200 LOC

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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

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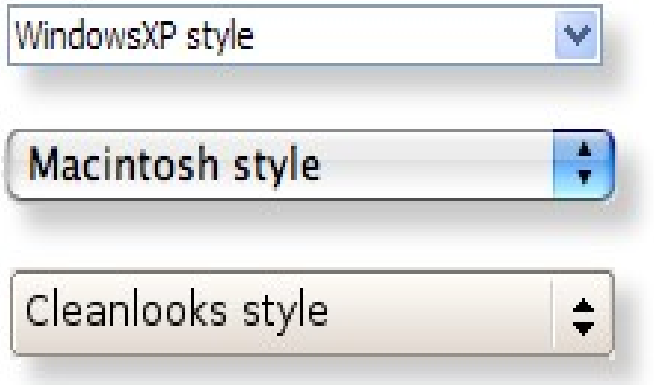
Qt 2



- 40 new classes
  - Adaptive Look & Feel
  - Unicode support
  - Printing
  - Mouse Wheel

בְּרֵאשִׁית בָּרָא אֱלֹהִים אֵת הַשָּׁמַיִם וְאֵת הָאָרֶץ: וְהָאָרֶץ
הָיְתָה תֹהוּ וָבֹהוּ וְחֹשֶׁךְ עַל־פְּנֵי תְהוֹם וְרוּחַ אֱלֹהִים מְרַחֶפֶת
עַל־פְּנֵי הַמָּיִם: וַיֹּאמֶר אֱלֹהִים יְהִי אוֹר וַיְהִי־אוֹר: וַיַּרְא
אֱלֹהִים אֶת־הָאוֹר כִּי־טוֹב וַיַּבְדֵּל אֱלֹהִים בֵּין הָאוֹר וּבֵין
הַחֹשֶׁךְ: וַיִּקְרָא אֱלֹהִים ׀ לָאוֹר יוֹם וְלַחֹשֶׁךְ קָרָא לָיְלָה וַיְהִי־
עֶרֶב וַיְהִי־בֹקֶר יוֹם אֶחָד:
וַיֹּאמֶר אֱלֹהִים יְהִי רָקִיעַ בְּתוֹךְ הַמָּיִם וִיהִי מַבְדִּיל בֵּין מַיִם
לָמָיִם: וַיַּעַשׂ אֱלֹהִים אֶת־הָרָקִיעַ וַיַּבְדֵּל בֵּין הַמַּיִם אֲשֶׁר
מִתַּחַת לָרָקִיעַ וּבֵין הַמַּיִם אֲשֶׁר מֵעַל לָרָקִיעַ וַיְהִי־כֵן:
וַיִּקְרָא אֱלֹהִים לָרָקִיעַ שָׁמָיִם וַיְהִי־עֶרֶב וַיְהִי־בֹקֶר יוֹם
שֵׁנִי:

Quot from the Hebrew Bible

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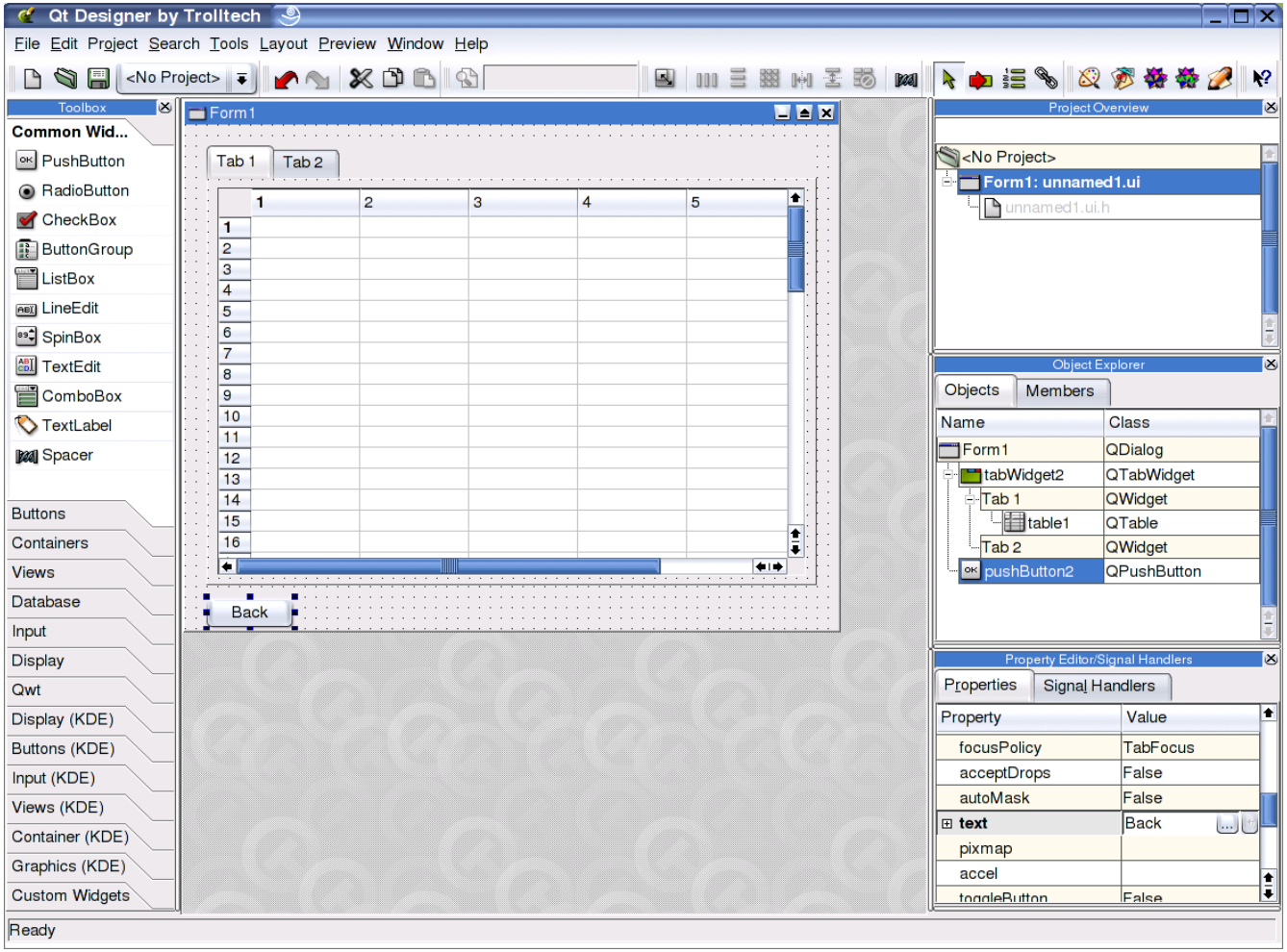
Qt 2 - Designer



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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

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Desktop applications on «mobile» devices

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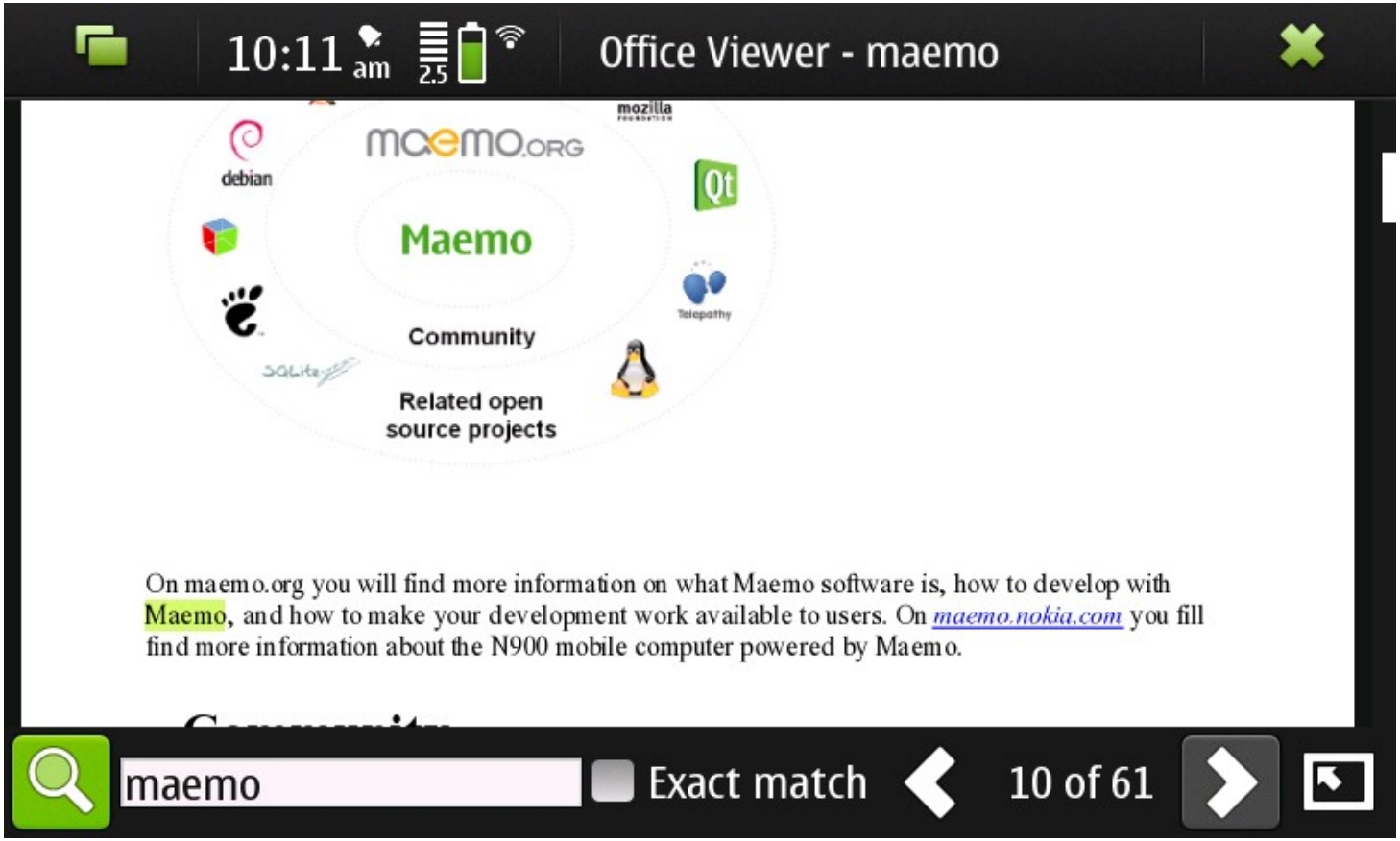
KOffice ... now known as Calligra



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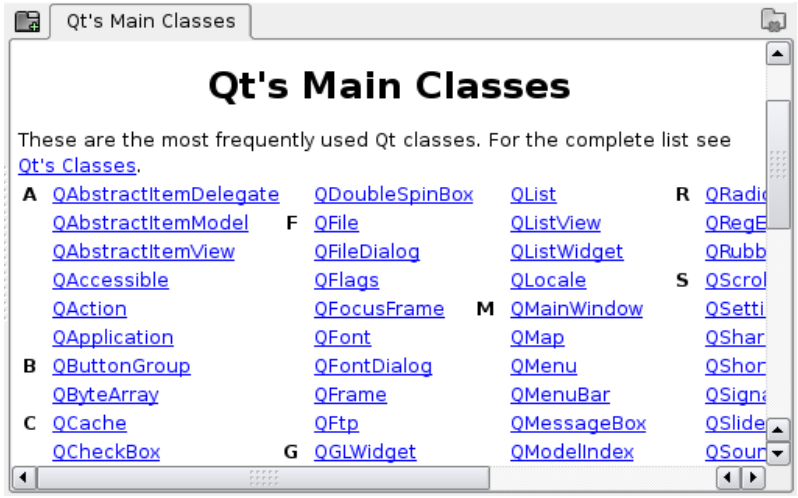
Qt 3

- 42 new classes
  - **Rich Text support**
  - **Table Widget**
  - **Accessibility**
  - **XML**
  - **Database**
  - **Network**
  - **IO**



January	6	
February	3	
March	2	
April	3	
May	6	

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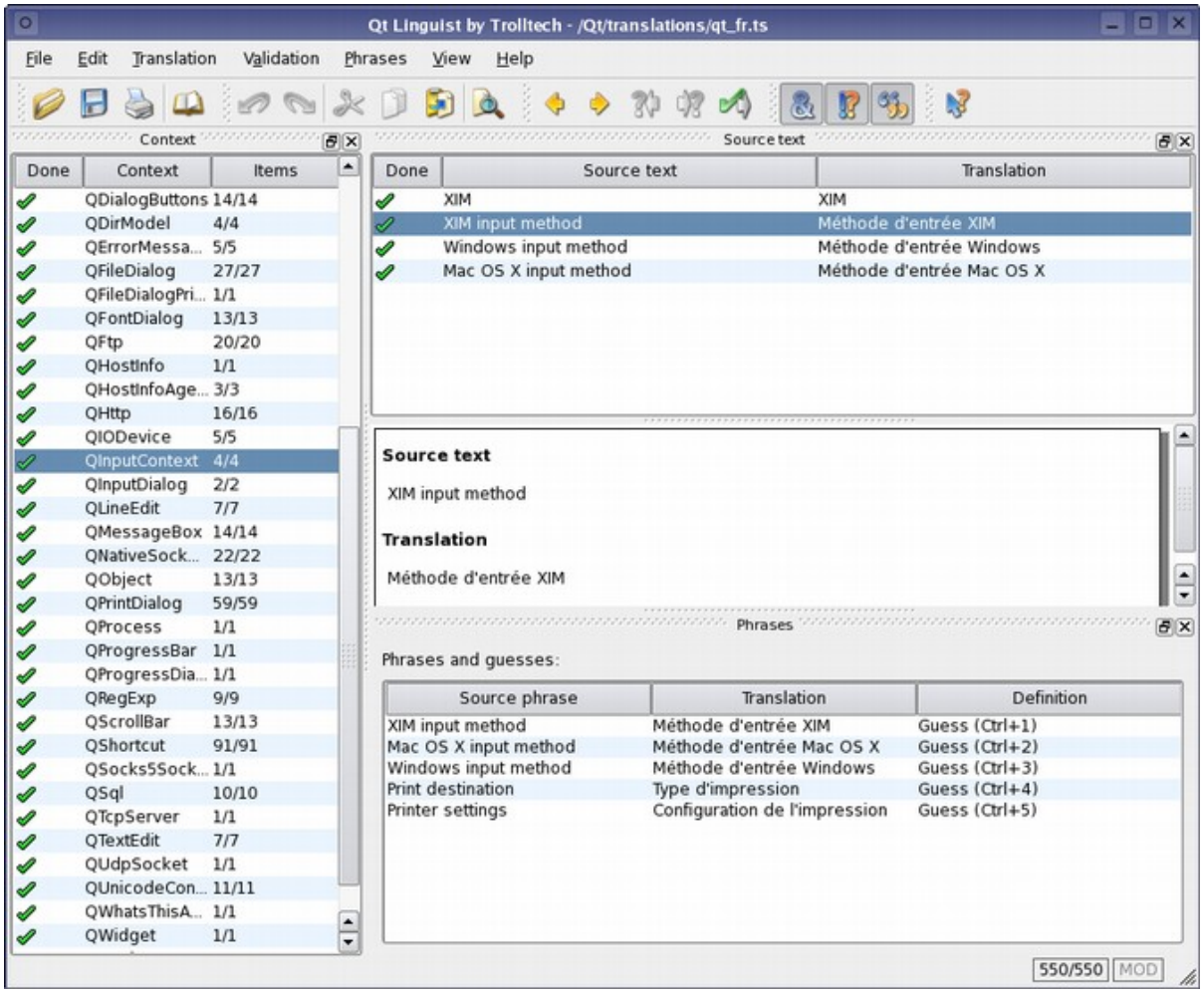
Qt 3 – Linguist



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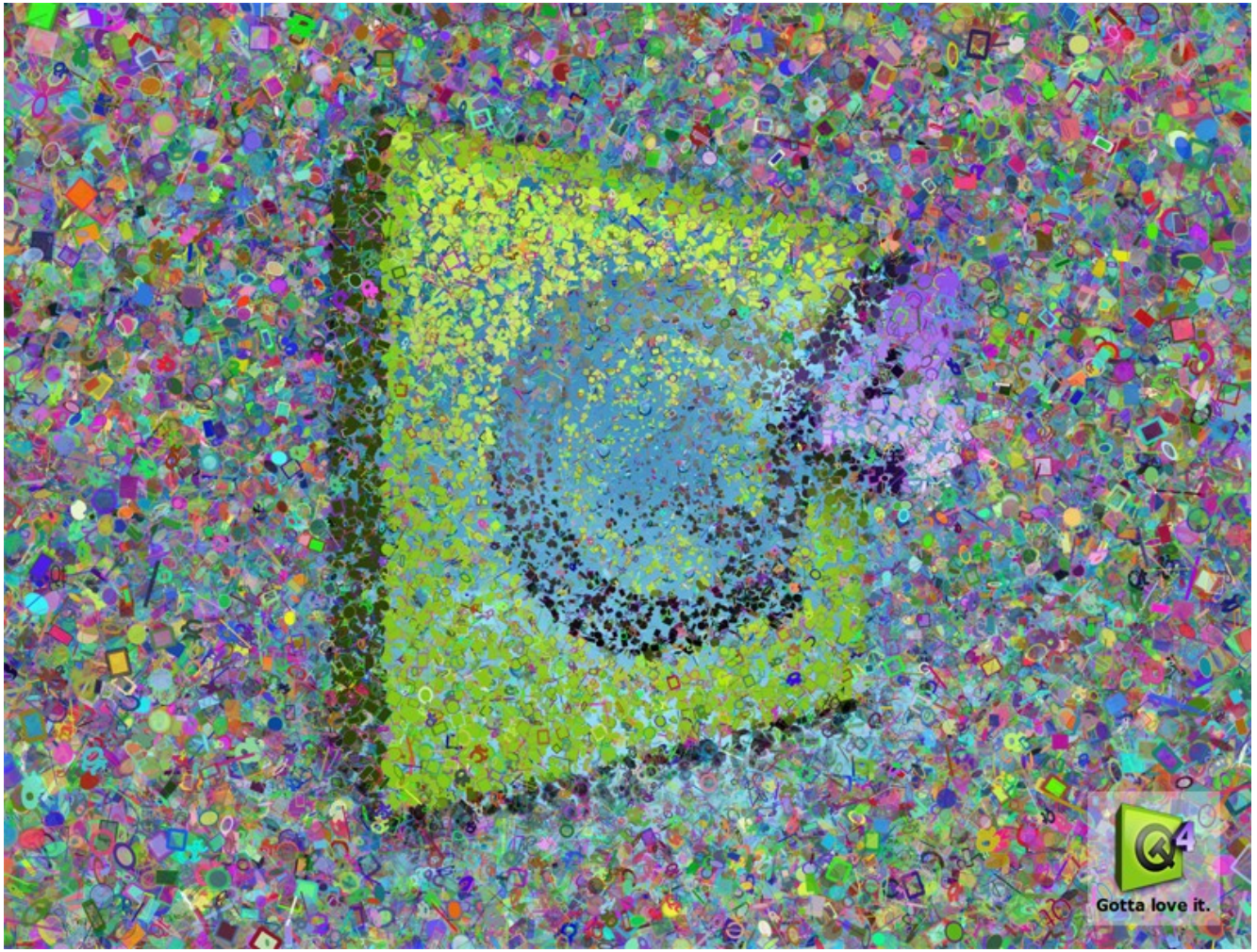
Qt 4 – QGraphicsView



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Qt 4 – Perspective

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Qt 4 – Transparent

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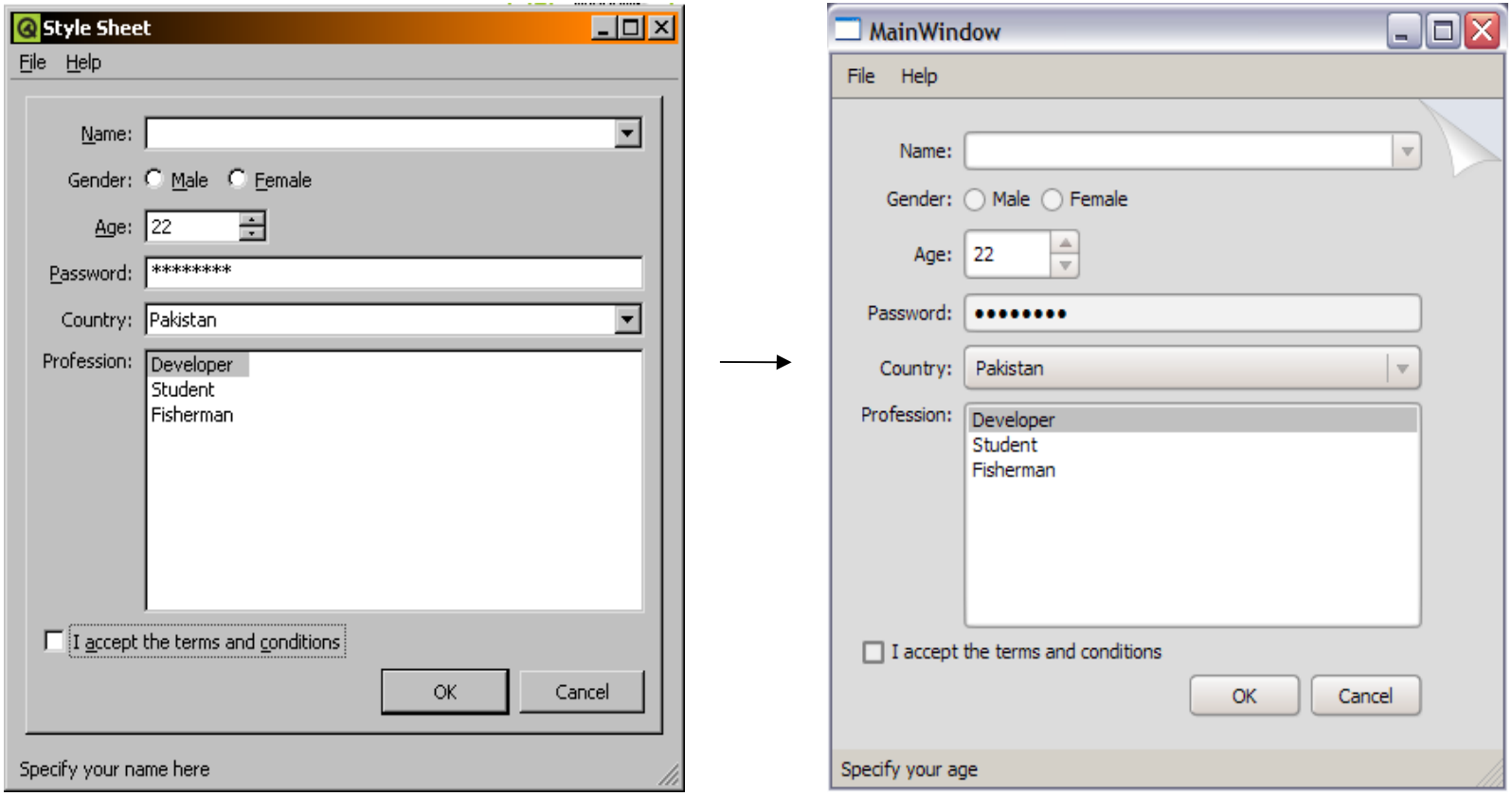
Qt 4 – CSS Widgets



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Interesting changes

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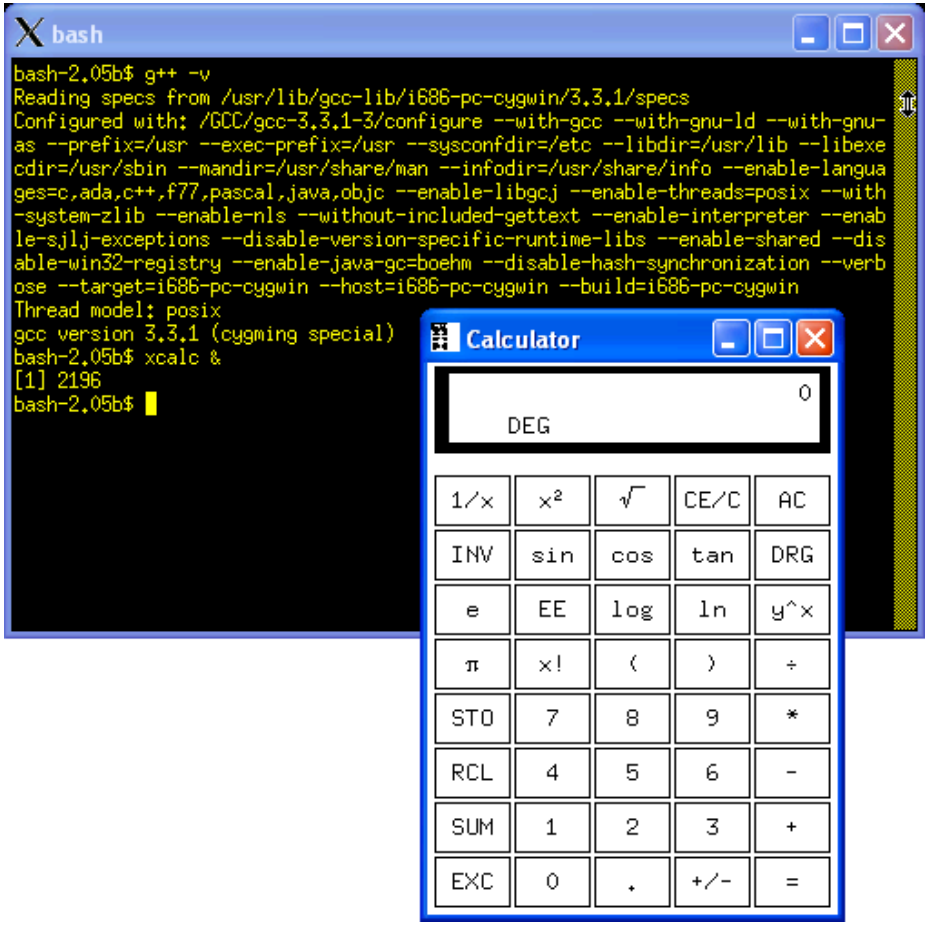
Typical Linux desktop in 1996



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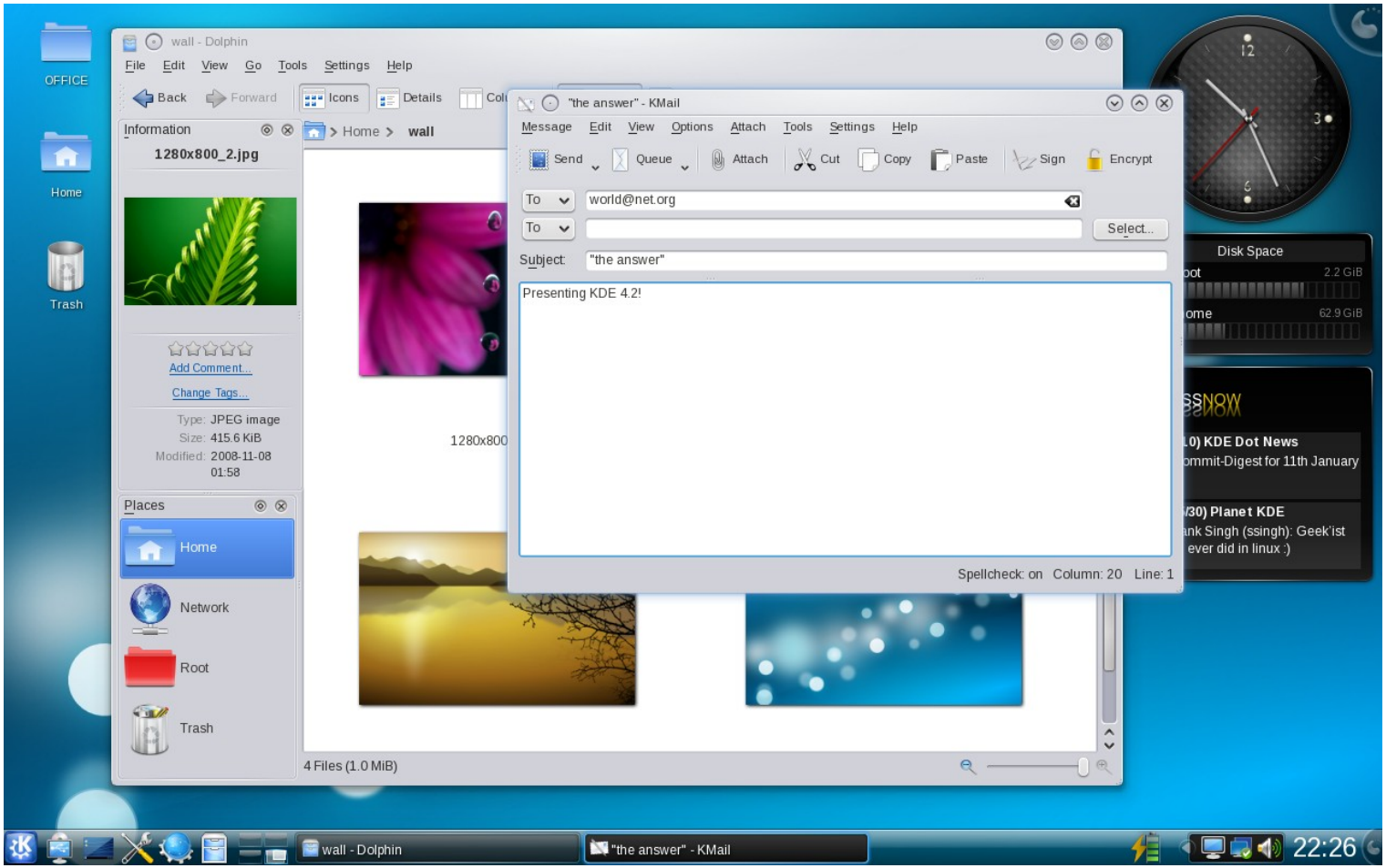
KDE

15 year of building better software with Qt



> 5000 applications

Typical phone UI 2008

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Next gen phone UI
Touch and animations

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If you think this was big changes?

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Biger changes are already implemented

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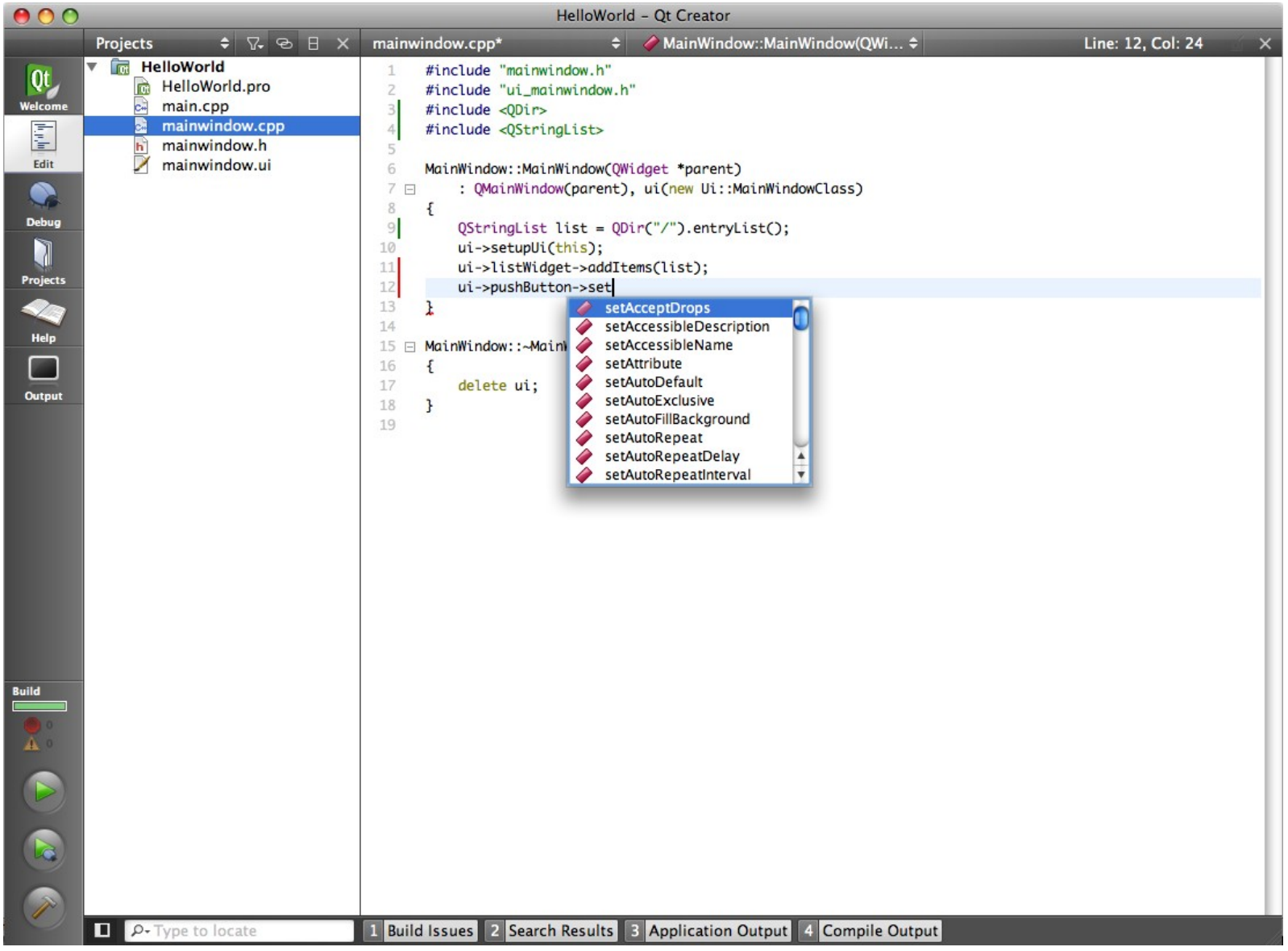
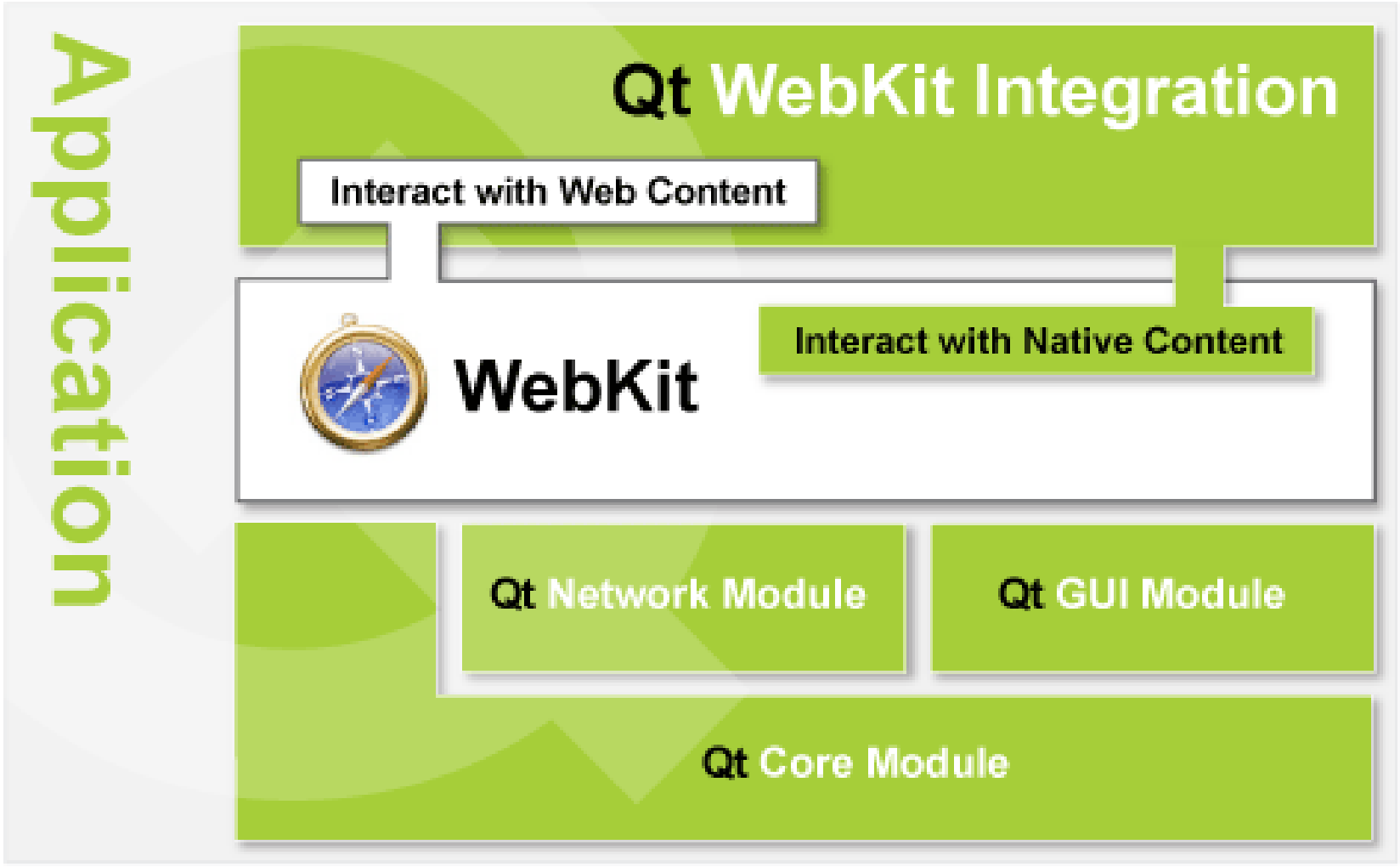
Qt 4.5 Creator



Qt Webkit Integration



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Integrating Web into your apps

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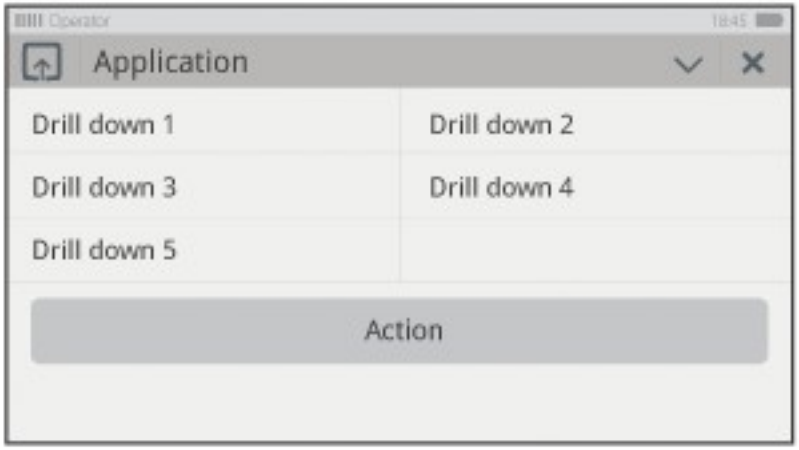
Touch and rotate



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Animation with Qt Quick

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Adressable Qt marked

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Qt is default on Symbian

100 Million + 150 Million = 250 Million

Installed

To be sold

Symbian

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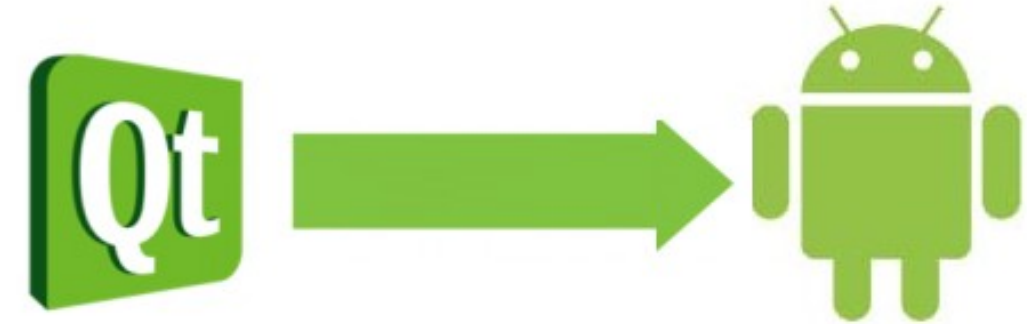

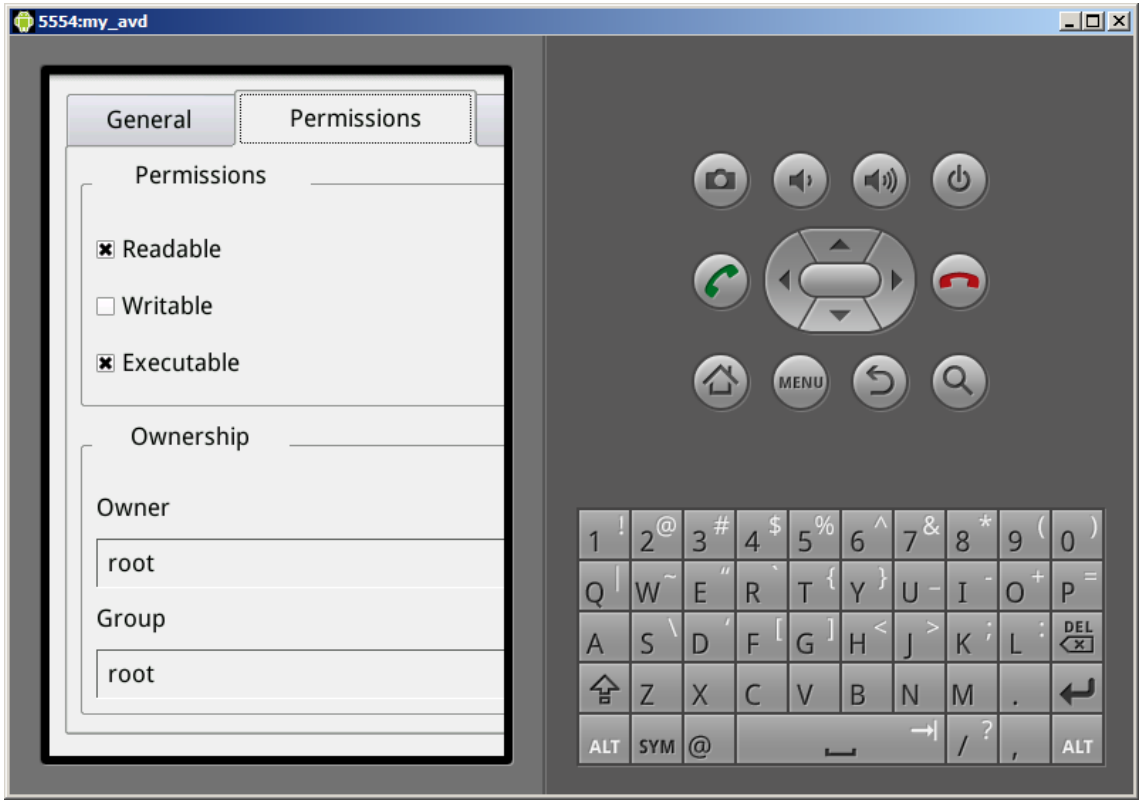

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Qt + MeeGo =

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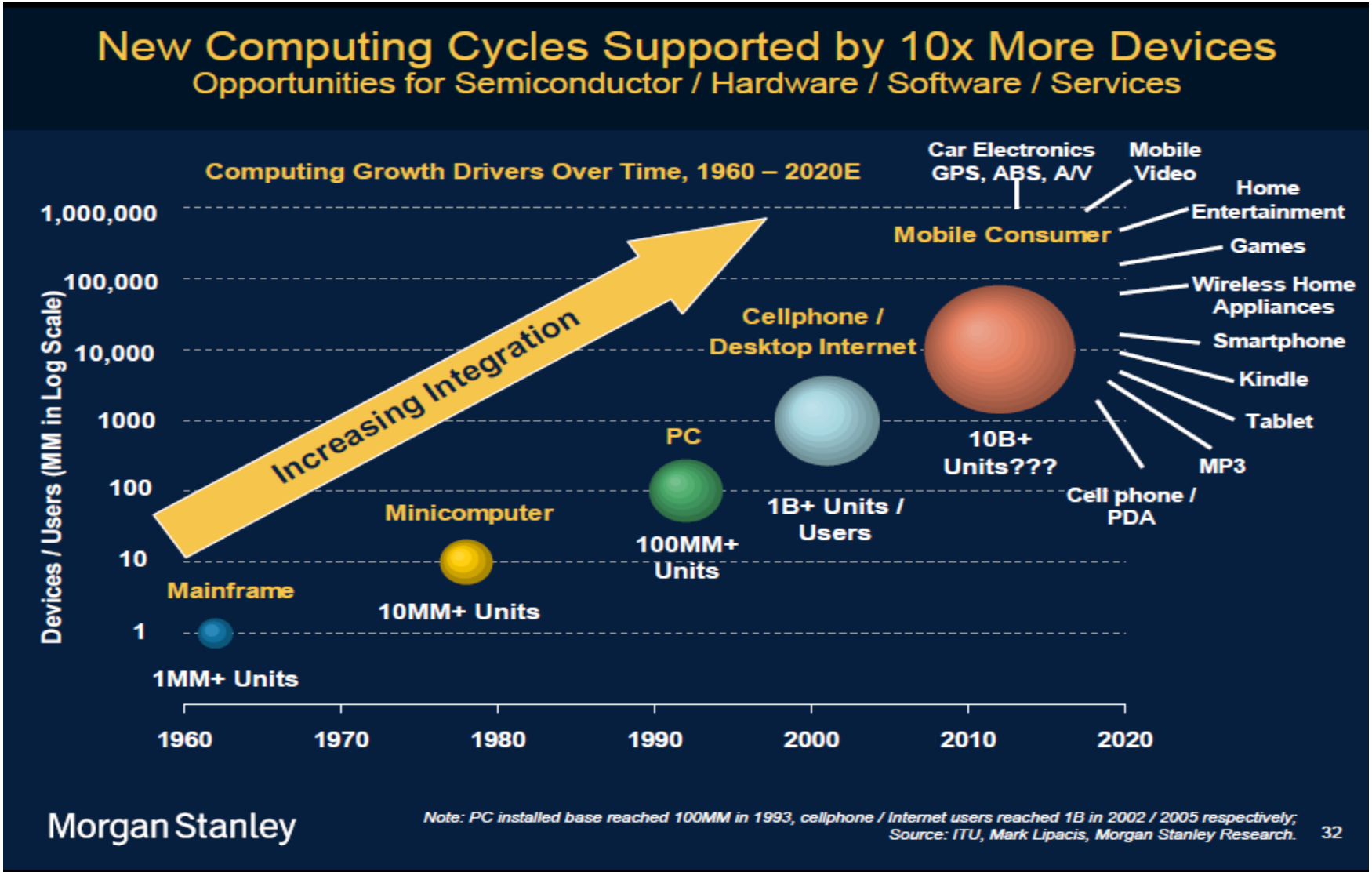
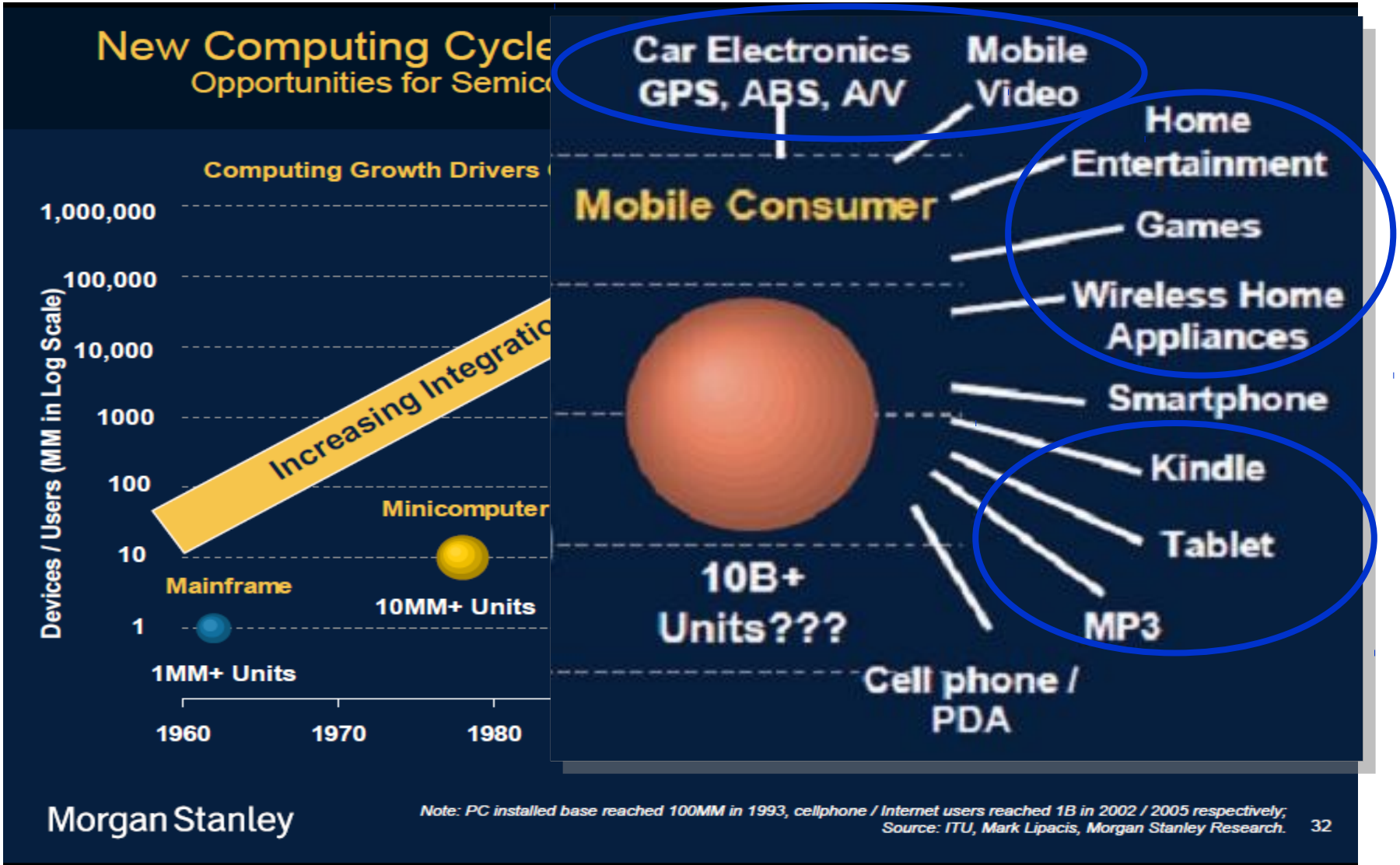
Open Source Convergence – A game changer



Open Source Convergence – A game changer



300% relative growth in Qt jobs

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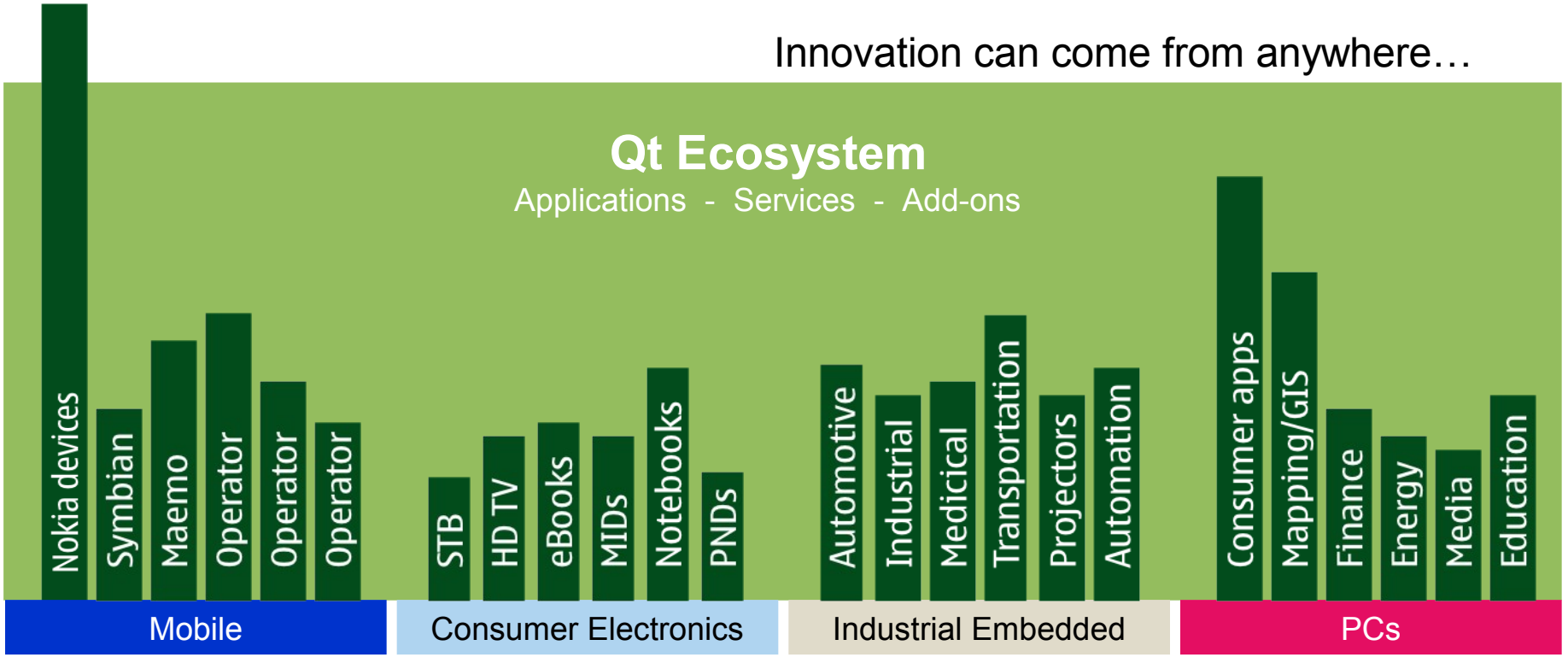
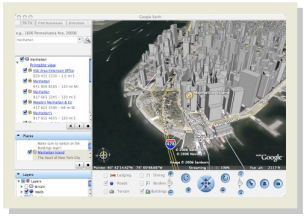
Qt in 70 industries

Innovation can come from anywhere…





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Knowing Qt and Qt Quick

You are prepeared!

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Thank you!

Q & A

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