Qt in Education

The ideas behind Qt and a live demo

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What is Qt?

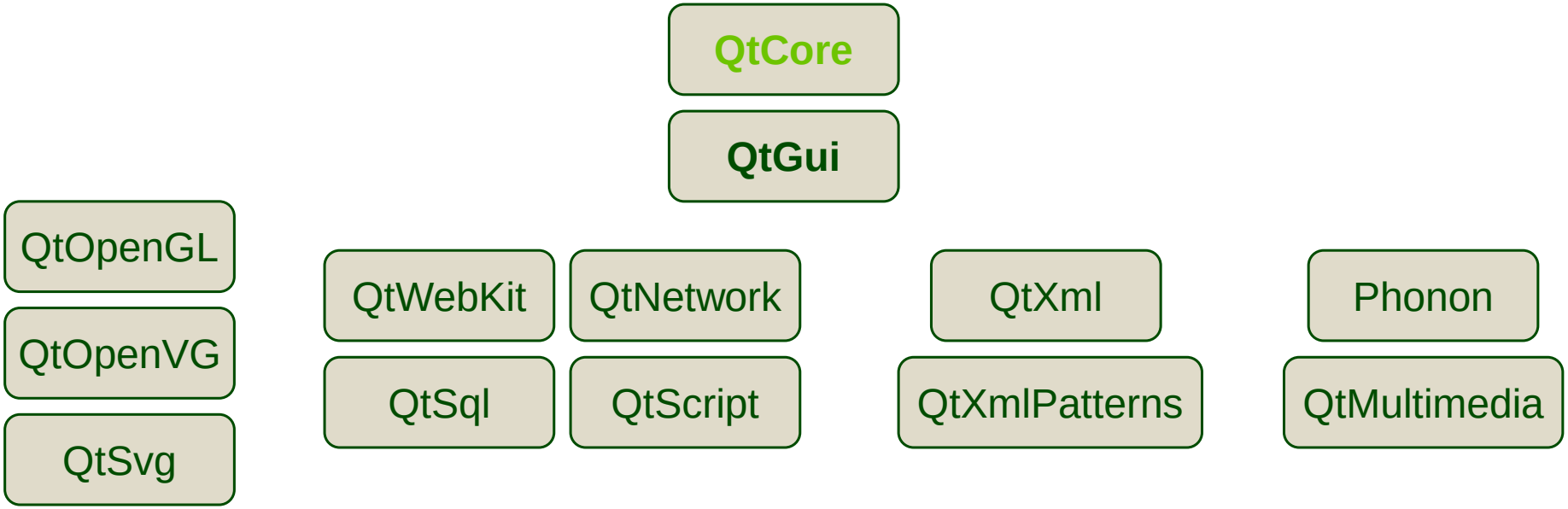
"Qt is a cross platform development framework written in C++."

- C++ framework – bindings for other languages
  - Python, Ruby, C#, etc.
- Originally for user interfaces – now for everything

  Databases, XML, WebKit, multimedia, networking, OpenGL, scripting, non-GUI...

What is Qt?

- Qt is made up of modules
  - All modules have a common scheme and are built from the same API design ideas



What is Qt?

- Qt extends C++ with macros and introspection

```
foreach (int value, intList) { … }
```

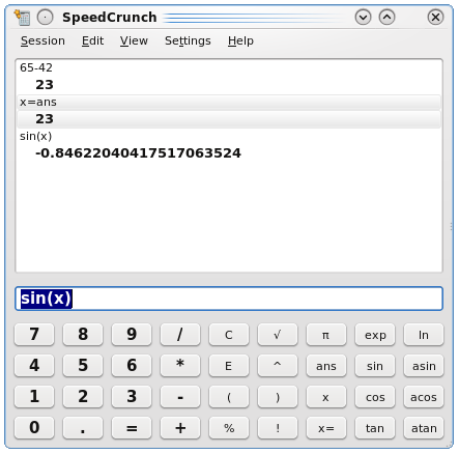
```
QObject *o = new QPushButton;
o->metaObject()->className(); // returns ”QPushButton”
```

```
connect(button, SIGNAL(clicked()), window, SLOT(close()));
```

- All code is still plain C++

The Purpose of Qt

- Cross platform applications built from one source
- Builds native applications with native look and feel



- Easy to (re)use API, high developer productivity, openess, fun to use

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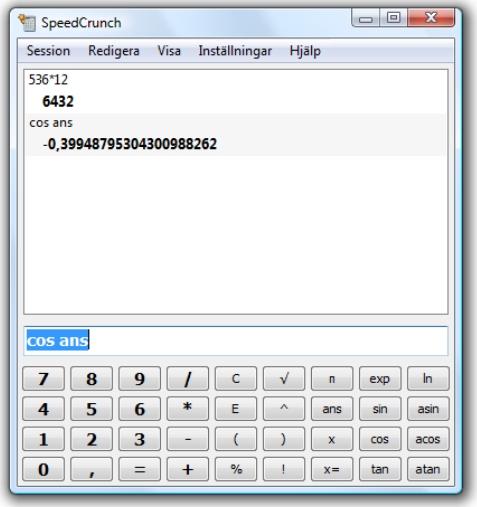
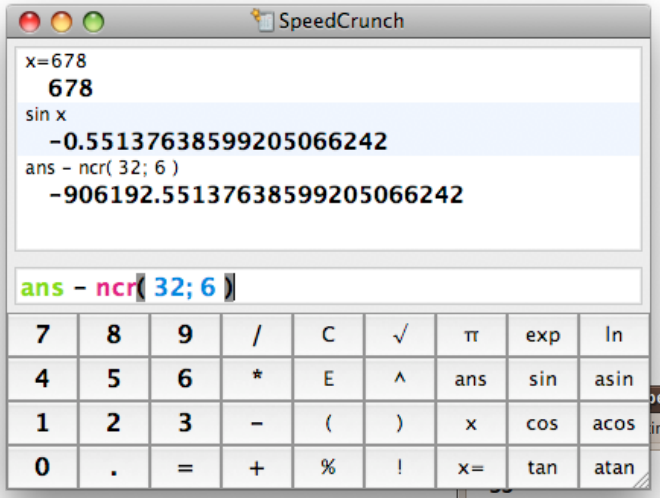
Desktop target platforms

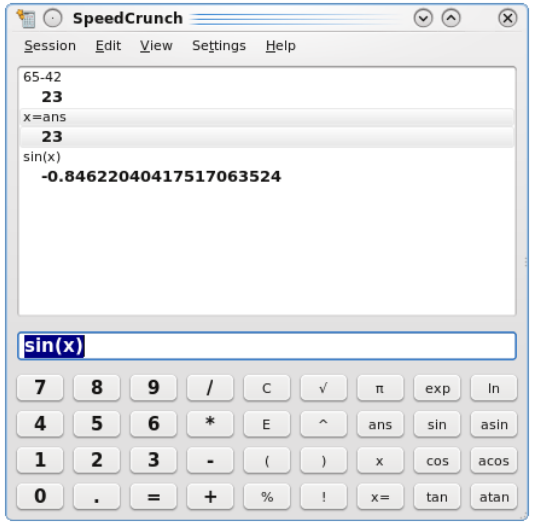
- Windows





- Mac OS X

- Linux/Unix X11



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Embedded target platforms

- Windows CE

- Symbian

- Maemo

- Embedded Linux
  - Direct framebuffer access

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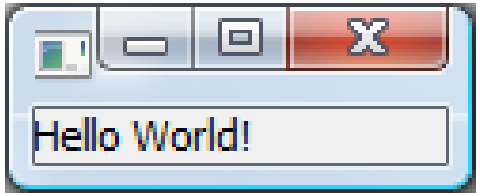
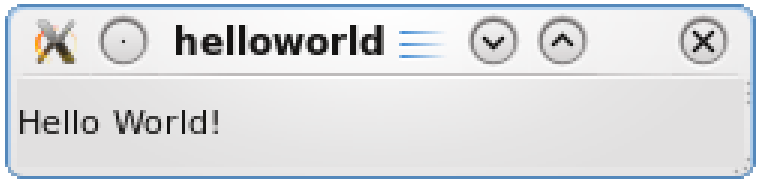
Hello World





Hello World

```
#include <QApplication>
#include <QLabel>

int main( int argc, char **argv )
{
    QApplication app( argc, argv );
    QLabel l( "Hello World!" );
    l.show();
    return app.exec();
}
```

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Where is Qt used?

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The history of Qt

- 1991 – Haavard Nord and Eirik Chambe-Eng begin to develop what will be Qt supporting X11 and Windows

TROLLTECH

- 1994 – The company Trolltech was formed

- 1996 – The KDE project was started by Matthias Ettrich (now works for Nokia Qt Development Frameworks)

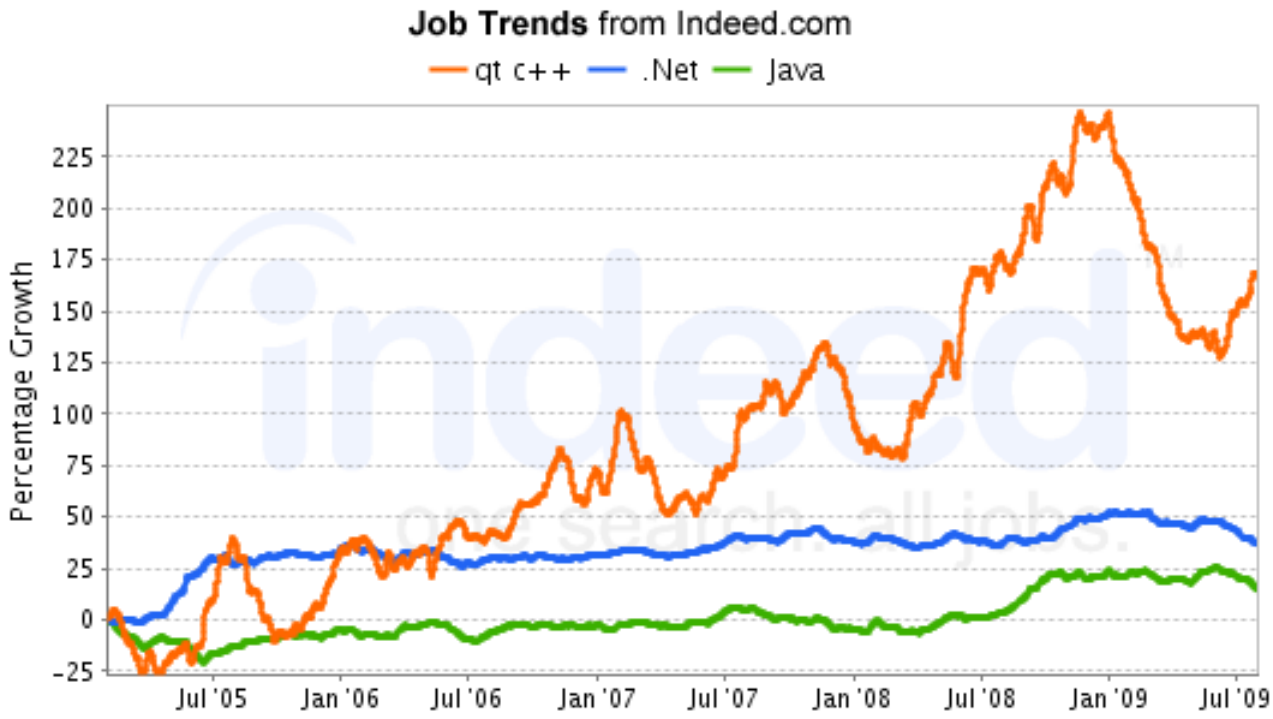
The history of Qt

- 2001 – Added support for Mac OS X
- 2005 – All platforms released under GPL
- 2008 – Nokia acquires Trolltech

- 2009 – Support for S60

Qt Today

- ~840 classes
- ~180 developers working on Qt



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The Qt Community

- QtCentre (www.qtcentre.org)

  forum, news, wiki

- Qt labs (labs.trolltech.com)

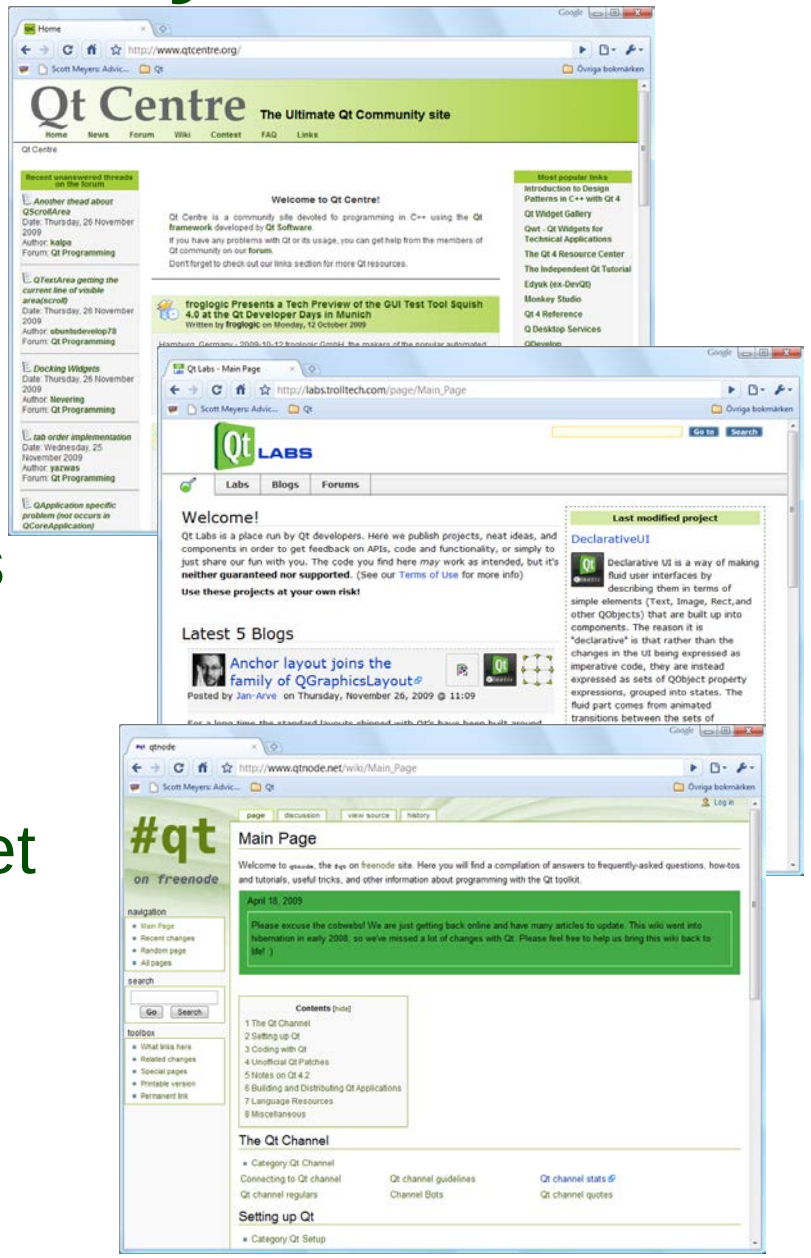
  developer blogs, research projects

- #qt at freenode

  IRC channel, has wiki at qtnode.net

- Mailing lists (lists.trolltech.com)

  Qt-interest (still very active)



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