

Free
Software
Conference
Scandinavia

FSCONS

7 - 8
December
Sweden **Göteborg** 2007

Free Software in Telecom focusing on Qtopia

Access to the mobile operators network

Knut Yrvin
Community Manager
Trolltech ASA



Knut Yrvin – Community Manager Trolltech

- Telenor in 1986 – technical assistant
- Engineer in electronics – 1992
- Telenor – project planning – 1993
- Master in system development - 2000
- Norwegian Central Securities Depository and a consultant for three years
- Co-founded Skolelinux in 2001
 - Now a part of Debian Edu
- Trolltech ASA - 2006

Agenda

Getting access to phones with free software

- Use of free software in products
- Situation today
- Research cooperation with Telenor
- How free software will influence a growing mobile market



First Trolltech Overview

Trolltech

A unique 13 years of success

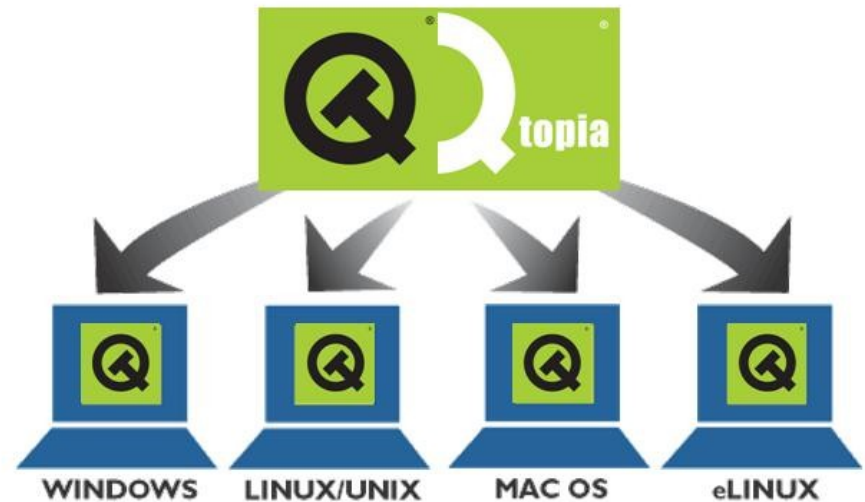
- Founded in Oslo, Norway in 1994
- Publicly listed on OSE (ticker: TROLL)
- 250 employees worldwide
- 5000+ customers
- More than hundred thousand open source developers



Trolltech

Building better software

- Focus: developer tools and mobile platforms
- Provide building blocks for advanced software
- Users: Deploy advanced applications everywhere



Qt is used by KDE

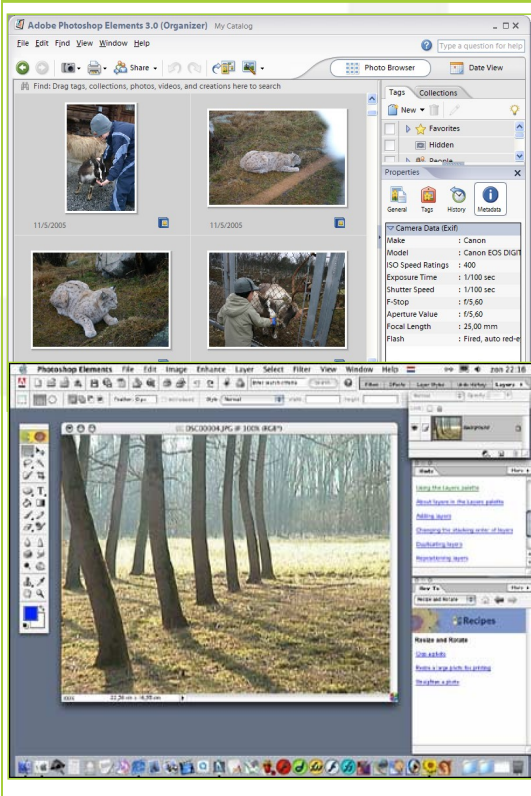
Building better software



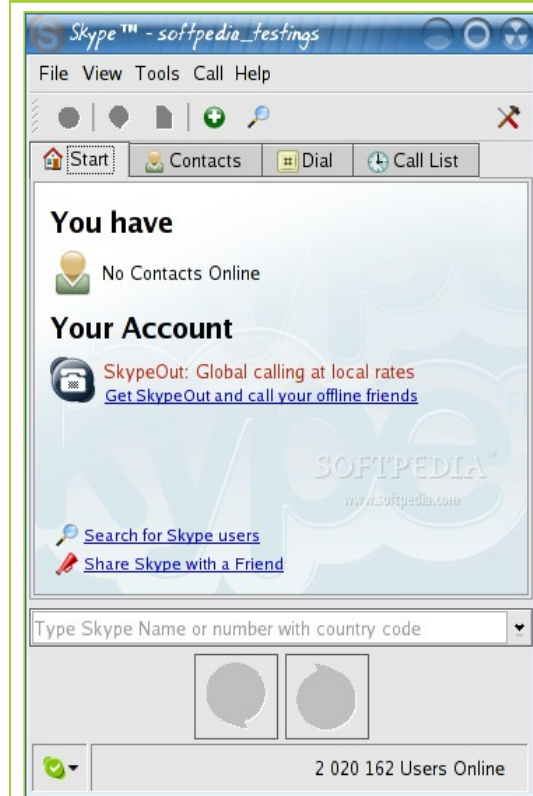
Trolltech

Building better software

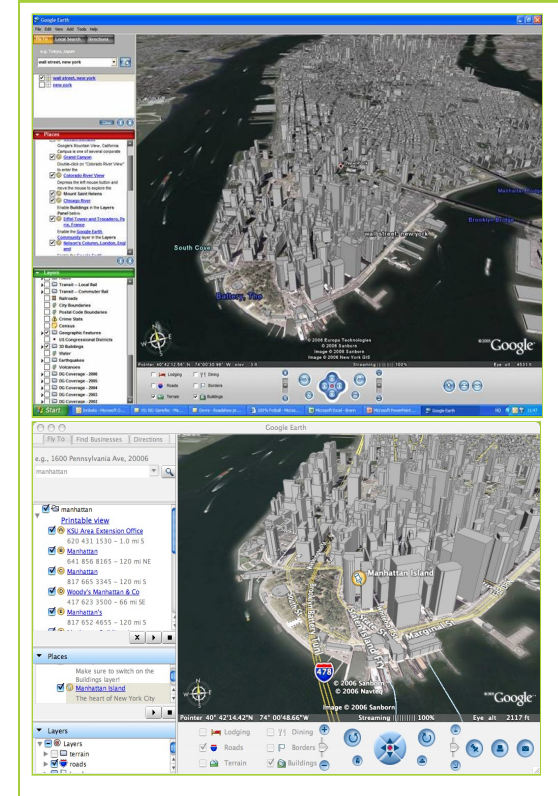
Adobe Photoshop Elements



Skype



Google Earth



Linux devices

Phones to embedded devices to coffee machines?



VOIP Phones



Personal Video Recorder (PVR)



Wireless TV/handheld



Industrial apps



Mobile phones



Automotive



Medical devices



Broadband Device



Set-top box

Qtopia Greenphone

Example of Open Innovation

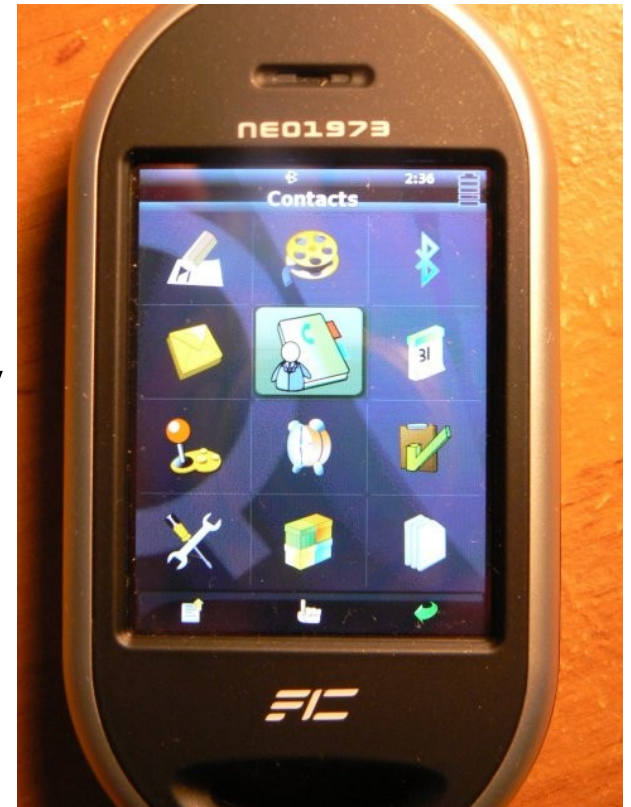
- Greenphone – the first completely open developer phone
- Unlimited customization
- Unlimited innovation
- Very popular among operators and mobile tech companies
- In use at universities and colleges



Qtopia on Neo 1973

Example of Open Innovation

- Neo 1973 the next completely open developer phone
- Unlimited customization
- Unlimited innovation
- Works closely with the community



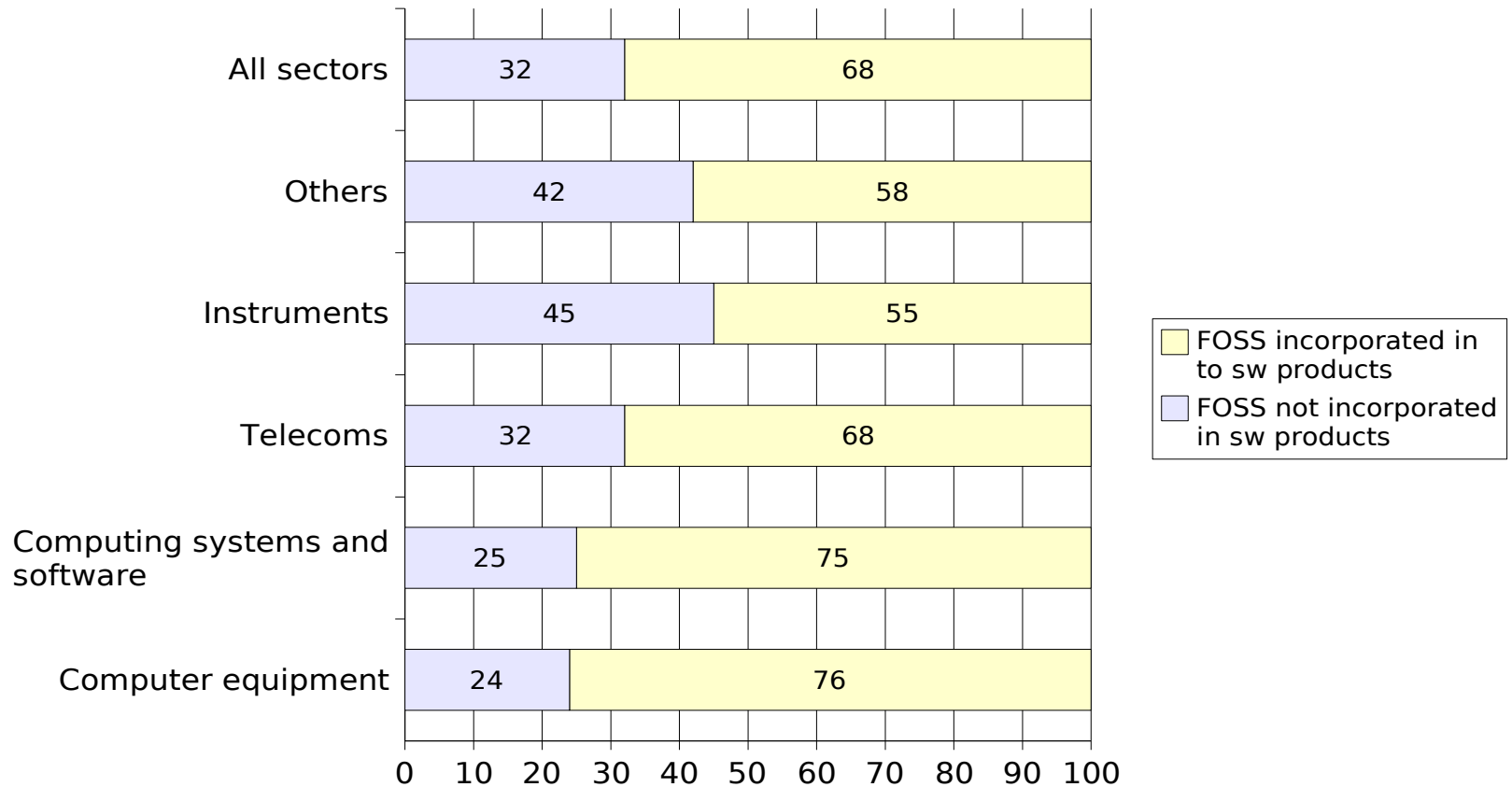
Qtopia phone edition is now 100% GPL



Marked shares - Free Software

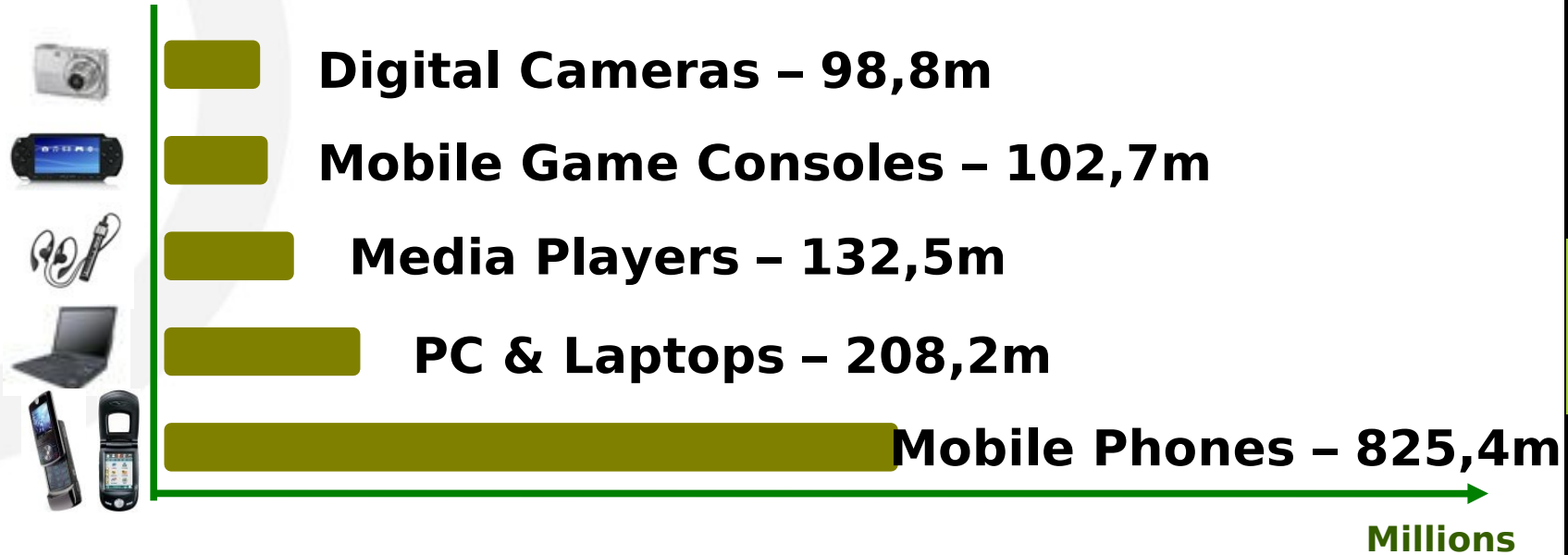
FOSS Marked Position

68% of all software products incorporates free and open source software (FOSS)



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Source: <http://www.flossimpact.eu/>

Sale of Consumer Electronics 2005



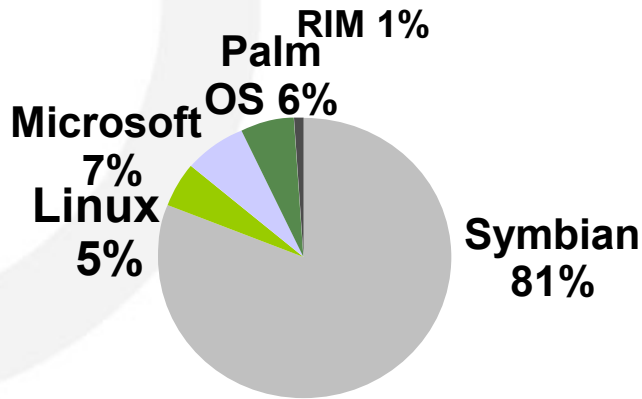
- ~ 990 000 000 Mobile Phones sold in 2006
- 50% of worlds population will have a mobile in 2009

Mobile Phones are the Convergence Winner

Linux growth

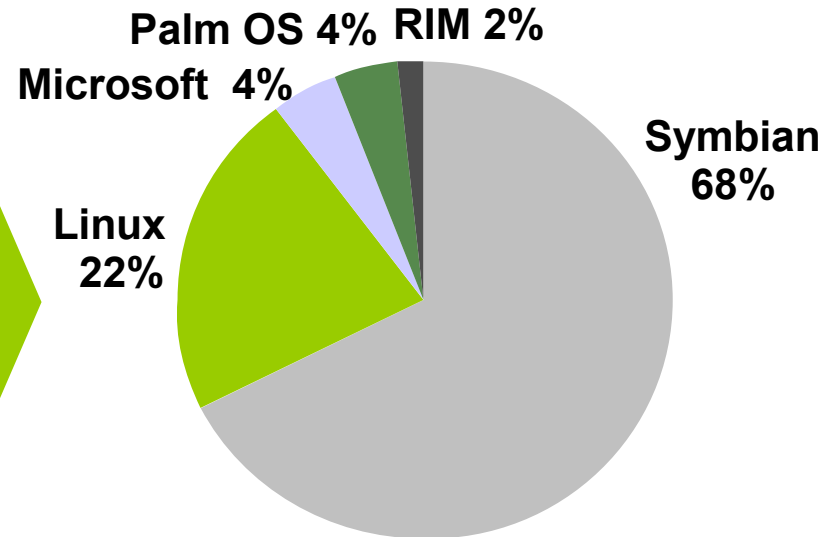
Smartphone units shipment 2004/2005

2004



- 16.7 million shipments

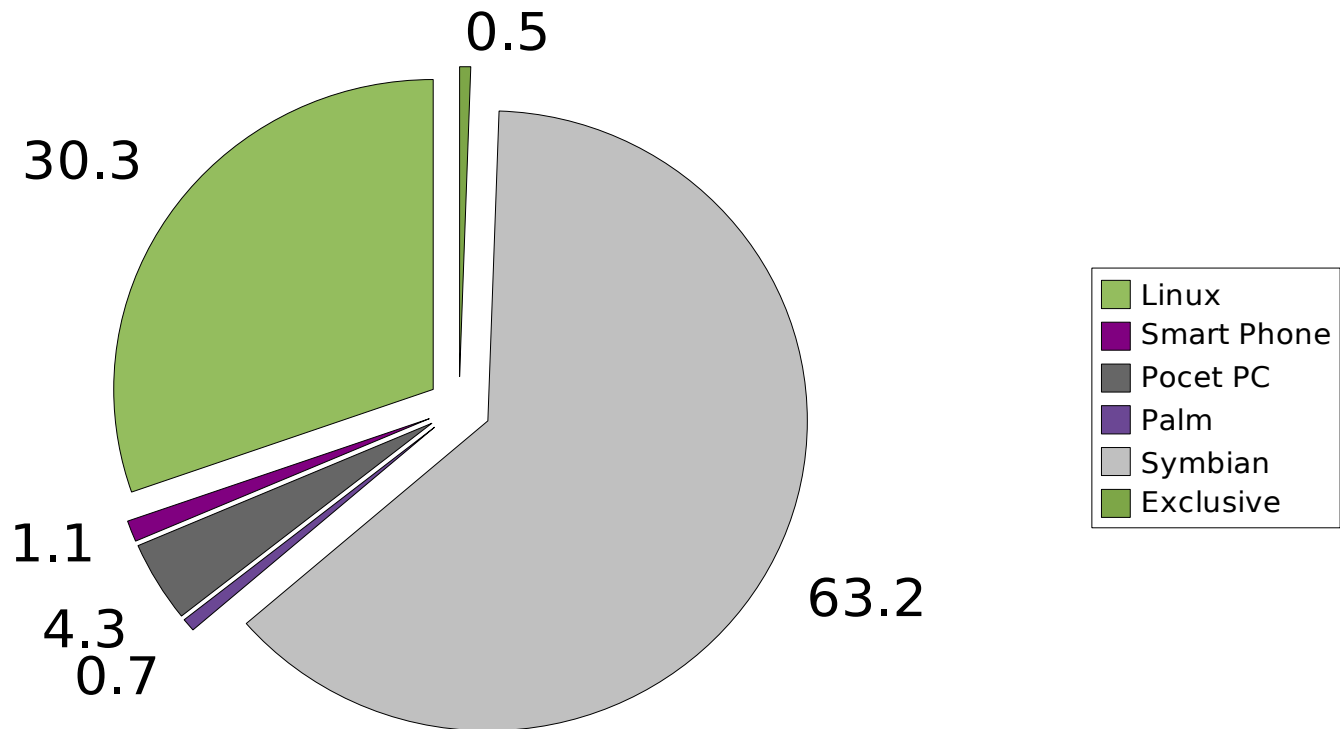
2005



- 49.0 million shipments

Qtopia on 1/3 of the Linux smartphones

15 mill smartphones sold in China - 2006



Mobile phone operating system market share in China

(Source: CCID Consulting, Jan. 07)

<http://linuxdevices.com/news/NS9419753617.html>

9 mill. phones sold with Qtopia so far

- 60% of all phones made by Motorola will use Linux by the next few years[1]
- Linux on phones will surpass Symbian in 2012 analysts predicts[2]
- Open Source growth of all European IT-services will rise from 20,5% in 2006 to 32% in 2010[3]



Source:

1. http://www.motorola.com/mediacenter/news/detail.jsp?globalObjectId=8536_8466_23
2. <http://news.zdnet.co.uk/software/0,100000121,39253434,00.htm>
3. <http://www.flossimpact.eu/>



Challenges

Are we realizing the potential?

Problem:

- A mobile phone today got same computer power as a standard PC 10 years ago
- More applications for mobile phones will makes them more useful and fun to use. Look at the PC success allowing software installation
- Unfortunately mobile phone vendors and several operators supplies the users with proprietary “lock-in” solutions only

Status

Today no phones are really accessible for free software in the consumer market

Operators and phone manufacturers has not really bothered with free software

Time for change!

Releasing the potential

- How can we support programming and installing software on phones?
- The mobile operator Telenor now looks on ways to open up for free software on phones. Telenor got 129 million customer world wide
- They provides free network access for students and software developers who makes open source for phones

Research and Innovation cooperation



telenor - **PATS**

Program for Advanced Telecom Services

- NTNU lab opened September 2001
- 100+ students projects & MsC completed
- 30+ services built
- 3 Ph.d. students
- 6+ filed patents (in accordance with EU regulations which prohibits pure software patents)
- 20+ companies used PATS, 2 spin-offs
- Cooperation with many partners
- <http://www.pats.no>

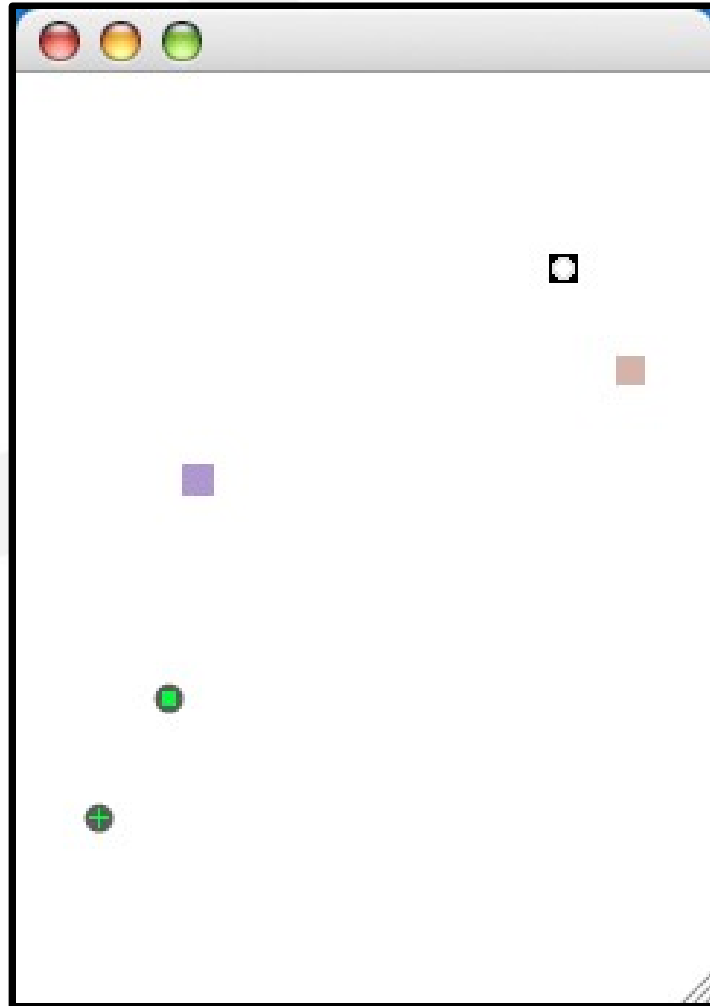
Now open for free software developers

Game programming on Greenphones



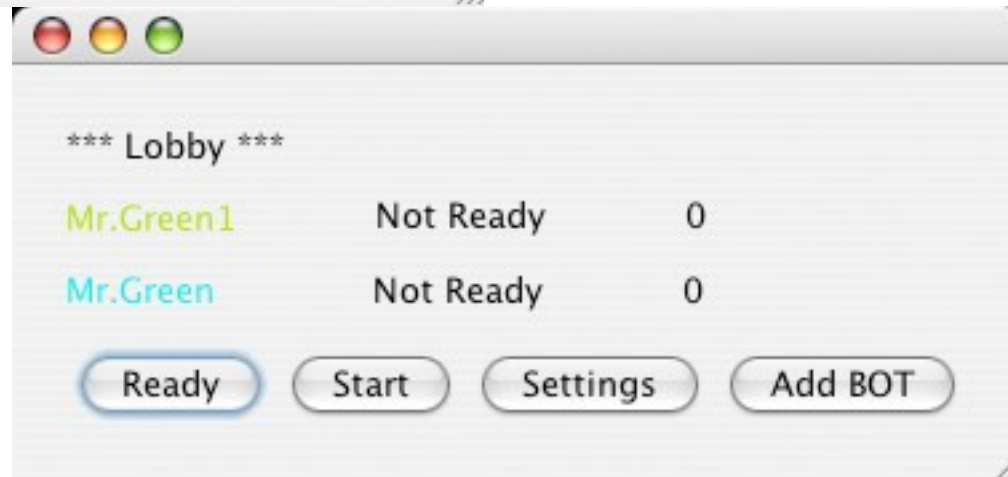
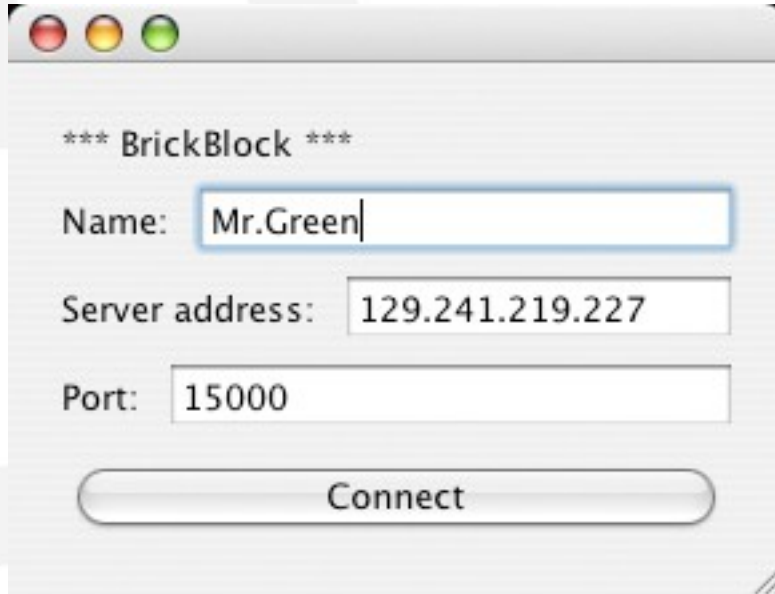
Summer project with students and one researcher

Multiplayer BrickBlock on the phone network



- The goal is to push other players into a trap
- Powerups as size, power and speed helps winning
- A stronger player got more control and possibilities to push a weaker block

Screenshots: setup, sessions and status



Extract from the project report

- I've learned a lot of C++ this summer and gained knowledge of how one can create GUI's using the Qt framework.
- I've also gained some experience with development for the Trolltech Greenphone and what kind of problems one can expect to meet when developing mobile applications, especially network/GPRS-based apps.
- Despite of all the "hassle" with the GreenPhone, I've had a very nice time here at Telenor. It has surely been a fun summer and I've learned a lot of useful and interesting stuff.

- Dag Hendrik Lerdal, Oct 6, 2007



telenor **iLabs – tests out this hypothesis**

... use of open source software, open apis and -standards will create attractive collaboration communities for faster and better (mobile) service innovations

iLabs will give advice on how Telenor should use open source for innovations
through
practical exploration
attracting innovators

Janus Facebook client



A summer hit? - sharing pictures and chatting with Facebook friends from the mobile

iLabs open source sholarship

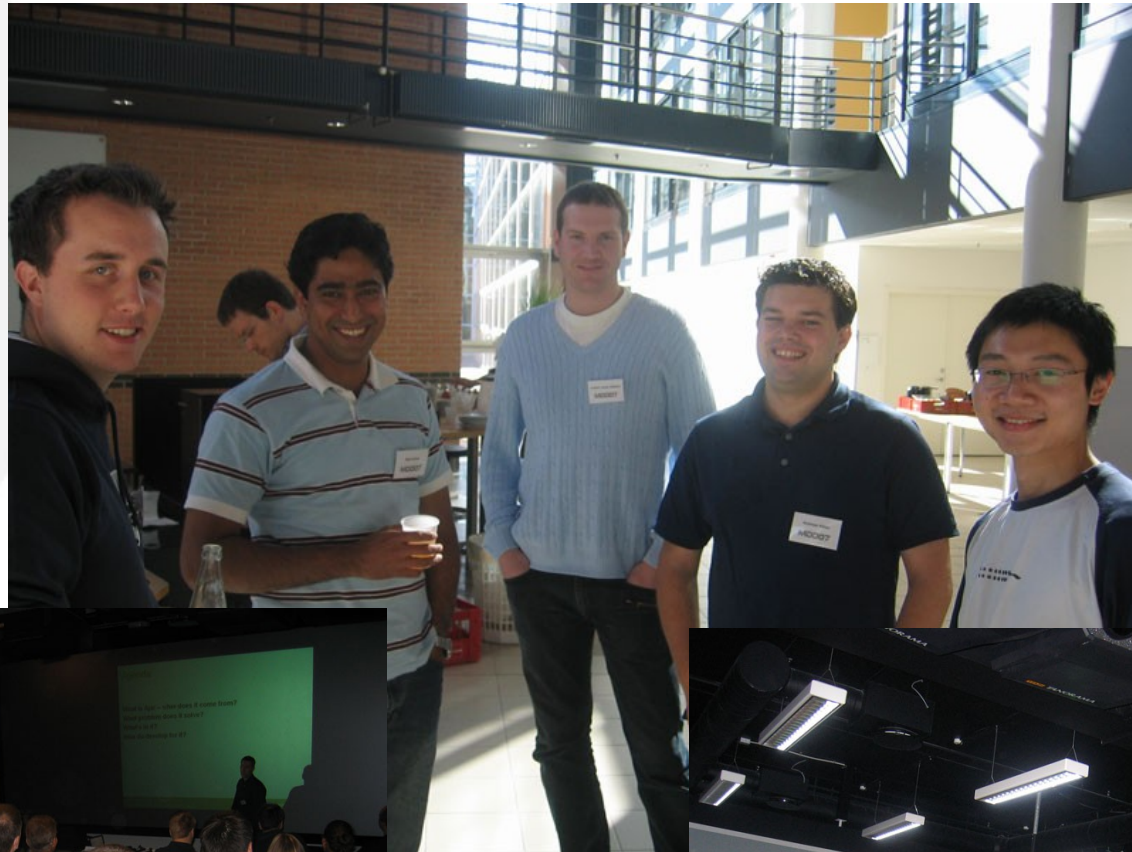
■ aim

- stimulate cooperation in open source between students and their supervisors
- closer contact with professionals with respect to future collaboration and recruitment
- may be interesting results for or own research as well as business
- contribute to create a larger competence network within the area

■ targeted at universities & colleges

Please visit <http://www.ilabs.no/>

Mobile Developer Days 07



Why Trolltech sponsor OpenEmbedded (OE)

- Is created for handling embedded devices with scarce resources (little memory and cpu power etc.)
- Created by merging OpenZaurus with Familiar and OpenSIMpad into common codebase
- Creates a complete embedded Linux distributions from scratch – being distribution and architecture agnostic
- Self contained multiple build and target operating system. Handles interpackage dependencies
- Supports 157 devices today

OE are planning developer gatherings

Please visit: <http://www.openembedded.org/> and
<http://qtopia.net>



Trolltechs message to mobile phone vendors and operators

Open Source Business Model

Influencing Mobile Market

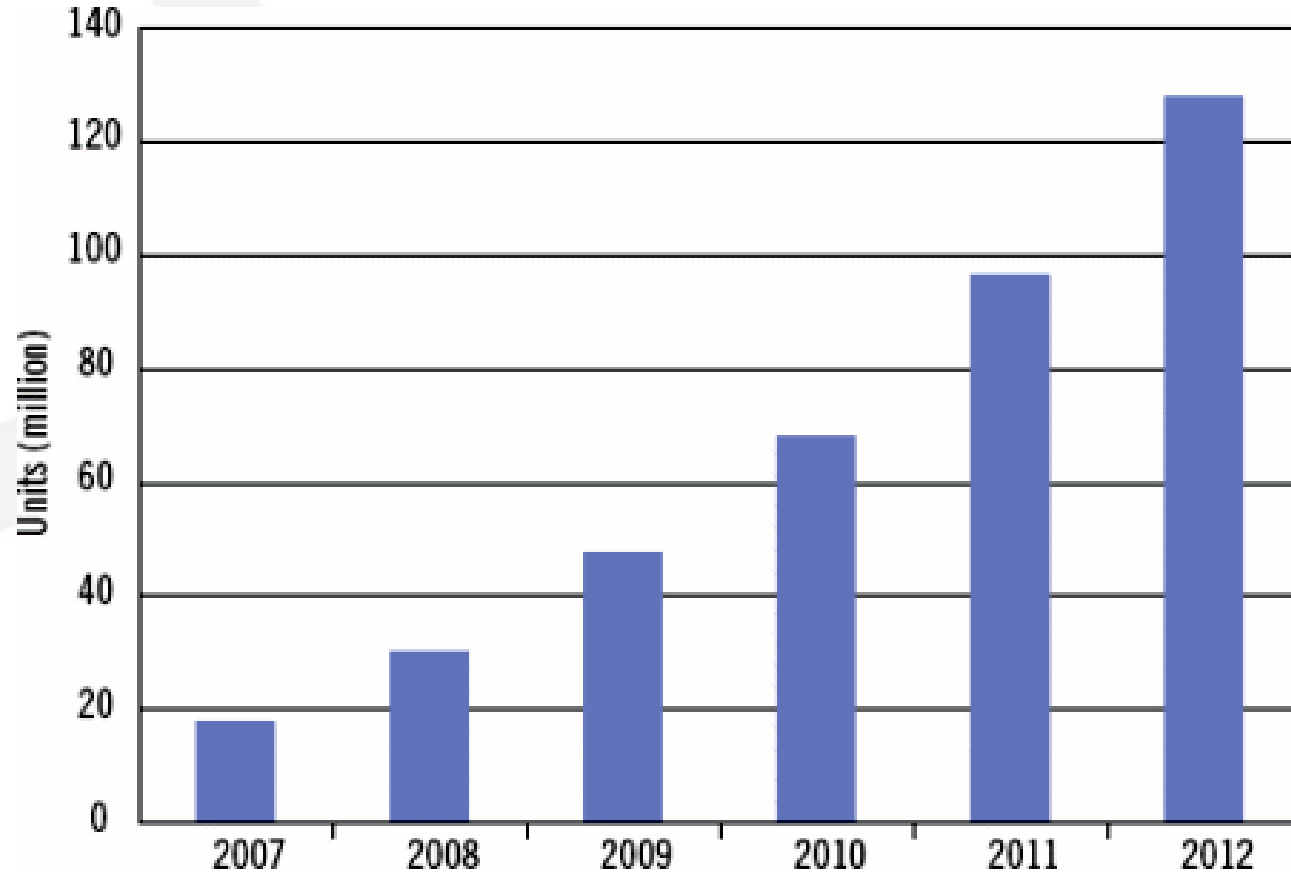
- Linux has been mobile for a while...
- The era of proprietary platforms is over!
- The industry is looking to open platforms and open ecosystems because:
 - Drives commoditization and lower cost for manufacturers
 - OEMs and operators want greater control of user experience
 - Open source drives innovation

Open Source Business Model

Consequences for mobile software vendors

- Mobile software vendors need to rethink their value propositions
- Many mobile applications will still be proprietary
- Middleware/platform vendors need to adapt NOW

Help us introduce open hardware with free software on phones!



Estimated Worldwide Linux OS-based mobile phone sales, 2007 – 2012

Source: Informa



Questions ...

Please visit: <http://qtopia.net>

The logo features a large, light gray stylized letter 'T' on the left side, composed of a vertical bar and a curved bottom section. To the right of this 'T' is the word 'TROLLTECH' in a bold, sans-serif font. The letter 'O' in 'TROLLTECH' is replaced by a green power button symbol, which consists of a circle with a vertical line through its center. A registered trademark symbol (®) is located at the top right of the word 'TECH'.

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