Agenda

• Nokia Developer offering
• NFC Architecture in Symbian & API deep dive
• Application development
• Distribution
Developer offering
Platform Positioning

- **Mobile Computers**: MeeGo
- **Smartphones**: Symbian
- **Mobile Phones**: Series 40

Price segments (EUR):
- 500
- 250
- 150
- 100
- 50

Categories:
- Rational
- Aspirational
NFC coming to Nokia Smartphones...

Speculations are in and around:

- Allaboutsymbian.com: “NFC in select Nokia smartphones next year”
- NFC World: “All new Nokia smartphones to come with NFC from 2011”
- NFC Times: “Nokia C7 is NFC enabled”

Anssi Vanjoki, EVP Markets, Nokia
Smartphone OS Shipments Q2 2010

Data: Canalys
Smartphone Market Share in 2014

Data: IDC Worldwide Quarterly Mobile Phone Tracker, September 7, 2010
NFC on Symbian, API deep dive
Nokia NFC Architecture

Supported Operating Modes:

- **Reader/writer**
  - Tag manipulation
  - SmartPosters
  - Type A/B reader mode
  - Mifare classic 1k/4k, Jewel read only, NFC Forum type 1-4

- **Peer-2-Peer**
  - Can connect to another NFC Device
  - Bluetooth pairing
  - Data exchange
NFC Interfaces

- All interfaces offer same/similar level of functionality & granularity
- Technology choice depends on other criteria e.g.:
  - Developer Skillset
  - Use case
  - Cross platform needs
  - Platform integration
## NFC Services APIs

<table>
<thead>
<tr>
<th>API</th>
<th>Description</th>
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<tbody>
<tr>
<td>NFC Discovery API</td>
<td>Provides methods to subscribe and discover tags and NDEF messages.</td>
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<tr>
<td>NFC Tag Extension API</td>
<td>Provides implementation and access (read/write) methods for different types of NFC targets.</td>
</tr>
<tr>
<td>NDEF API</td>
<td>Provides methods for handling NDEF messages and accessing NDEF messages on tags.</td>
</tr>
<tr>
<td>NFC Peer-to-Peer API</td>
<td>Provides the LLCP API for peer-to-peer communications between NFC devices.</td>
</tr>
<tr>
<td>NFC Content Handler API</td>
<td>Provides the ECOM plug-in interface for subscribing and receiving NDEF messages.</td>
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</table>
Symbian Native development

- Symbian^3 SDK
  - Comes with Carbide.c++ IDE
- NFC Plugin for S^3 SDK
  - Adds NFC services libraries
  - Adds NFC emulation support for device-less development & testing
- Optional – Qt for Symbian
Qt development

- Nokia Qt SDK
  - Comes with QtCreator IDE and device simulator
- Qt Mobility (NFC API) 1.x will add NFC API support
J2me NFC API – JSR-257

- Complete implementation of the JSR-257 Contactless Communication API + Nokia extensions
  - com.innovision.rf (NFC Forum Type 1, Innovision Jewel, Innovision Topaz)
  - com.nokia.nfc.nxp.mfstd (MIFARE 1k, MIFARE 4k)
  - com.nokia.nfc.nxp.simpletag (NFC Forum Type 2 - MIFARE Ultralight)
  - com.sony.felica (NFC Forum Type 3 - Sony FeliCa)
Application development
What is Qt?

• Develop C++ code only once
  – Deploy for multiple platforms
  – ... with native look & feel!

• More than UI
  – 23 modules, around 800 classes, 9000 functions
  – Development tools: IDE, UI designer, help system, translation tool

• Maximum performance
  – Native code on all platforms
  – Still possible to use platform specific APIs!
Platforms

Qt

- C++
- Java
- Python
- Ada
- Pascal
- Perl
- PHP

Supported on:
- Windows
- Mac OS
- Linux / X11
- Embedded Linux
- Windows CE
- Maemo / MeeGo
- Symbian

Maintained by the Qt open source community. Not officially supported by Nokia.
Longer history than you might think

Focus on mobile platforms (Symbian, Maemo, MeeGo), dedicated mobility APIs

Nokia purchases Trolltech

Qt 4.0 – leads to new KDE 4 desktop

Qtopia – platform for mobile phones & PDAs

First public release through newsgroups (Qt 0.90)
  • Dual licensing: commercial & free for open source

Decided to go into business
  • “Q” looked beautiful in Emacs font. “t” for toolkit
  • Company: Quasar Technologies (later: Trolltech)

Development started
  • Cross platform GUI toolkit was needed
You’re using it already!

... and many, many more!
Qt pre-installed on new Symbian platform phones

Upgrade your phone with future user experience enhancements!
Qt: used in all (future) platforms

... start developing now! (and switch to MeeGo when devices are available)
Qt SDKs from qt.nokia.com

You can of course install multiple SDKs at the same time.
Nokia Qt SDK

• One-Click installation:
  – Development tools
  – Build for and debug in real devices
    • Symbian
    • MeeGo / Maemo
  – Test on host PC
    • Simulator
  – Qt Mobility

• No extra device SDKs required anymore
Application Distribution
The global mobile apps economy is set to be worth $17.5 billion by 2012.*

The global mobile advertising market will be valued at over $16 billion by 2011.**

*Chetan Sharma Consulting, March 2010
** M:Metrics, August, 2010
Nokia Ovi Store Opportunity

Today you can distribute apps to approximately....

175m
Nokia Symbian Devices

500m
Series 40 Devices
Ovi Store Statistics

Users in 190+ countries
2.7 million application downloads / day
135+ device models supported
Storefront available in 30 languages
Operator billing with 99 operators in 27 countries (growing)

http://www.forum.nokia.com/Distribute/Ovi_Store_statistics.xhtml
Ovi Store

1. Register at publish.ovi.com (one-time fee of €1)
2. Create content items. Add meta data.
4. Access reports.
   You get 70%, Nokia 30%.
   (Operator billing: 60/40)
Thank you!

Damien.balsan@nokia.com

For more information visit: http://forum.nokia.com
Smart Installer Packaging

Source code
/cpp → .sis → Sign with free publishing certificate → .sis → Signed app package

App installation package

Sign with free publishing certificate

Signed app package

Meta-package (.sis)

Smart Installer package (in Nokia Qt SDK)

Deliverable, signed meta-package

Can be installed to a device that has Qt already installed. Ovi Store always requires the Smart Installer.
Forum Nokia Library

library.forum.nokia.com