About NFC

This article provides a summary of the Near Field Communication (NFC) technology and related development tools and development technology offered by Nokia. It includes an overview of the technology and videos covering the common NFC modes and use cases. Details on how to create NFC applications are provided in the article Developing NFC Applications, which covers development in Qt, Java ME, and Symbian C++ with information on coding, testing, UI design, and distribution considerations.

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Overview

Near Field Communication, more commonly referred to by its acronym of NFC, is a very short-range radio technology. It enables communication between an NFC reader and NFC tag when they are typically closer than 4cm from one another.

A complete introduction, more details about the technology and its support by Nokia are available in the Introduction to NFC document available from the Nokia Developer website.

- NFC is being introduced to Symbian devices, initially to the Nokia C7-Astound and (through the Symbian Anna firmware update) the Nokia C7-00 device.
- Initial operating mode support is for read/write and peer-to-peer.
- Development is undertaken using Qt Mobility, Java™ ME, and Symbian C++ APIs (with the ability to use Symbian C++ APIs in Qt applications).
- Development is supported in:
  - Qt SDK, with integrated Qt Mobility API v1.2. (Includes NFC APIs) targets for Symbian, Harmattan devices and simulator targets.
  - NetBeans, Eclipse, and Carbide.c++, with the Symbian^3 SDK 1.0 and NFC plug-in for the Nokia Symbian^3 SDK 1.0 installed.
- For testing, the Symbian^3 SDK 1.0 and Series 40 NFC SDKs provide tag and reader emulation (with test features planned for a later version of Qt SDK). An NFC enabled device is also essential.
- Special attention is required to UI design, to allow for NFC not being available on all devices and some devices requiring a firmware upgrade to activate their NFC features.

Nokia device and platform support for NFC

Nokia originally introduced NFC in the Series 40 Nokia 6212 classic and Nokia 6131 NFC devices. Nokia is introducing the technology to the Nokia C7-00 device (through the forthcoming Symbian Anna firmware update) and Nokia C7-Astound available from T-Mobile USA. Check the Devices section of the Nokia Developer website for a full list of devices with NFC technology and their availability.

NFC modes and use cases

NFC implemented on Symbian devices provides support for the following NFC modes:

- read/write — a Symbian device can read from or write to a NFC tag (fully supported).
- peer-to-peer (P2P) — a Symbian device and another NFC device can exchange data (partially supported through Qt Mobility and Symbian C++ APIs only).

Card emulation mode is not supported.

This mode support can be used to implement the following use cases:

- Service Initiation — a Symbian device can read data, such as a URL, from an NFC tag and initiate a service, such as browsing a website.
- Connecting devices — a Symbian device can read Bluetooth configuration details from another device or tag.
- Sharing — a Symbian device can share data with another NFC enabled device using an NFC data channel (for small amounts of data) or by creating and using a Bluetooth connection (for larger data items).

In this video, Stephane Doutriaux and Scott Tavelli of Poken discuss some of the use cases NFC on Symbian devices is enabling in the Poken application.

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While this video provides a broader insight into the possibilities offered by NFC technology on Nokia devices. Recorded at WIMA 2011 in Monaco it features Mark Selby, VP sales and industry collaboration, and Evren Kozcu, NFC implementation manager, from Nokia along with developers from Proxama, Digia, NOW! Innovations, iMPak Health, and Poken.

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Other NFC resources

- The article Developing NFC Applications, provides an introduction to the development of NFC apps using Qt, Java ME, and Symbian C++ and covers coding, testing, UI design, and distribution considerations.
- The Category:Near Field Communication (NFC) contains links to the 63 NFC articles on this wiki
- Discuss NFC in the Nokia Developer NFC Discussion Board
- Find more information on the NFC Forum website
- Find the NFC Forum Specifications, including NDEF and RTD specifications
- Qt NFC tutorial and links to further example apps at the Nokia Developer Blogs

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- Find example NFC applications in Nokia Developer Projects
- Get a good overview of NFC technology and some code examples from the NFC J2ME Tutorial. This is a sound starting point for beginners.
- Discover Portal:Java ME NFC Articles and the Java ME NFC Interactor project demonstrating NDEF tag handling

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