Gepe_UG_en.fm Page 1 Friday, February 11, 2005 11:41 AM

User Guide for Nokia NFC Shell for Nokia 3220

0903390
Issue 1

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0903390/ Issue 1

Gepe_UG_en.fm Page 4 Thursday, February 10, 2005 11:46 AM

Contents

FOR YOUR SAFETY 5

1. Overview 6
What are RFID and NFC? 7
Nokia NFC shell 8
Service Discovery application 8
Tags 9

2. Installation 9
Check the phone's network settings 11

3. Tags 11
Tag features 11
Place tags 12
Touch tags with RFID reader 12
Create your own service shortcuts 12

4. Service Discovery application 13
Start and close the application 13
Change application language 13
Read, view, and save a shortcut 14
Create and edit a shortcut 15
Give a shortcut 16
Launch a shortcut and write into a tag 17
Delete a shortcut 18
View the log 18

Care and maintenance 20

Gepe_UG_en.fm Page 5 Thursday, February 10, 2005 11:46 AM

FOR YOUR SAFETY

Read these simple guidelines. Not following them may be dangerous or illegal.
Read the complete user guide for further information.

QUALIFIED SERVICE
Only qualified personnel may repair this device.

WATER-RESISTANCE
Your device is not water-resistant. Keep it dry.

Gepe_UG_en.fm Page 6 Thursday, February 10, 2005 11:46 AM

1. Overview

Nokia NFC shell allows you to use touch to quickly and conveniently access various services with your Nokia 3220 phone. By touching Radio Frequency Identification (RFID) tags, you can launch the service shortcut contained in the tag (call dialling, web browsing, and SMS sending).

Nokia NFC shell includes a Java™ application called Service Discovery and four RFID tags. You can create your own service shortcuts and write all service shortcuts stored in your phone memory into the tags. You can also give the service shortcuts stored in your phone to another Nokia 3220 equipped with the Nokia NFC shell.
Your device and its enhancements may contain small parts. Keep them out of reach of young children.

This Nokia NFC shell is designed to be used in the Nokia 3220 phone that is available separately. For more information about the Nokia 3220 phone, see www.nokia.com.

Note: This user's guide contains information and instructions for Nokia NFC shell. For instructions on how to use your Nokia 3220 phone, see the Nokia 3220 user guide.

For examples of how you can use your Nokia NFC shell, see www.nokia.com/nfc.

Gepe_UG_en.fm Page 7 Thursday, February 10, 2005 11:46 AM

What are RFID and NFC?

RFID

RFID technologies use radio waves to automatically identify individual objects. The most common method of identifying objects using RFID is to store a serial number that identifies the object on an RFID tag, and attach the tag to the object.

The RFID tag is able to transmit the information it contains to an RFID reader device. The RFID reader is a short-range device (reading range 0–5 cm) and it converts the radio waves returned from the RFID tag into a format that can then be passed on to an application in the phone.

To transmit data from the RFID tag to the RFID reader, Nokia NFC shell uses the radio frequency 13.56 MHz, which is the most widely used globally available frequency for RFID.

NFC

NFC (Near Field Communication) is a short-range radio frequency technology that evolved from a combination of contactless radio frequency identification (RFID) and interconnection technologies. By emitting a short-range radio signal, the NFC device supplies power to an otherwise inactive tag, allowing the device to read the tag or write data to the tag's memory. Operating over a distance of only very few centimetres, it allows users to read small amounts of data from tags, as well as to communicate with other devices, by a simple touch.

When touching a tag, the NFC device reads the data stored on the tag, and initiates the appropriate action after the user's confirmation. For example, it will open a web page, call a favourite number, or send an SMS.

Gepe_UG_en.fm Page 8 Thursday, February 10, 2005 11:46 AM

Small items such as web links can also be shared by touching another NFC device.

Nokia NFC shell

Nokia NFC shell contains the RFID reader that enables you to read tags and to write into them with your Nokia 3220 phone. The RFID reader is located inside the lower part of the back cover of the shell (dark area in the picture).

The Nokia NFC shell also stores the Service Discovery application, and the Cover browser application. When you install the Nokia NFC shell, the Cover browser application is automatically downloaded to the phone, after which you can use it to download the Service Discovery application.

Note: The Nokia NFC shell is only compatible with the Nokia 3220 phone. Do not try to use it with other phones.

The RFID reader in the Nokia NFC shell takes its power from the phone battery. Using the RFID reader may drain the phone battery faster.

Service Discovery application

The Service Discovery application is used for accessing services with your Nokia 3220 phone.

The Service Discovery application enables you to read shortcuts from tags, save shortcuts to phone memory, write shortcut information into a tag, and give shortcuts to another Nokia 3220 phone with Nokia NFC shell.

Gepe_UG_en.fm Page 9 Thursday, February 10, 2005 11:46 AM

Tags

Nokia NFC shell comes with four tags. The tags are used for reading and writing service shortcut information. A service shortcut is either call dialling, web browsing, or SMS sending. You can create your own service shortcuts and write and rewrite them into the tags.

Note: The tags may set off the Electronic Article Surveillance (EAS) alarms used, for example, for theft-protection in shops.

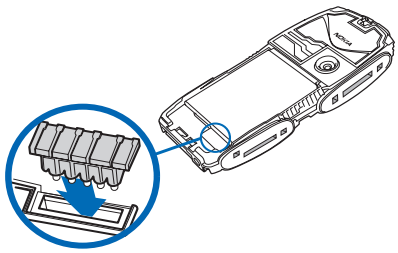
2. Installation

Note: Before removing the cover, always switch off the power from your phone and disconnect the charger and any other device. Avoid touching electronic components while changing the covers. Always store and use the device with the covers attached.

For general instructions on changing the back and front cover of your Nokia 3220 phone, see the user guide that came with it.

To install the Nokia NFC shell and its connector:

1. Remove the original back cover of your Nokia 3220 phone, remove the protective cover from the connector's slot, and insert the connector supplied with the shell into the corresponding slot in the phone.



2. Install the front cover of the Nokia NFC shell.
3. Install the back cover of the Nokia NFC shell.
4. Switch on the phone, and make sure that the time and date are set correctly in the phone.

   The shell automatically installs the Cover browser application in the Applications > Collection menu in your phone. The shell also contains the Service Discovery application that you can now install. Installation may take several minutes.

   If you do not install the Service Discovery application when installing the Nokia NFC shell, you can install it later using the Cover browser application. This is done as follows:

5. Select Menu > Applications > Collection > Select application > Cover browser > Open.

Gepe_UG_en.fm Page 11 Thursday, February 10, 2005 11:46 AM

6. Select Service Discovery. The application is downloaded into the Collection submenu in the phone. Downloading may take a few minutes.

Check the phone's network settings

Ensure that your Nokia 3220 phone has the correct settings for using SMS and GPRS.

For infirmation on the availability of an SMS or a GPRS service, related fees, and appropriate settings, contact your network operator or service provider.

3. Tags

Tag features

Nokia NFC shell uses non battery-powered (passive) tags. Use the following tag types: MIFARE® Standard, MIFARE® Standard 4k and MIFARE® Ultralight.

A tag can contain a shortcut which can be an SMS-based service, a URL of an Internet-based service, or a phone number of a telephone service.

Nokia NFC shell contains four tags. If you need more tags, please contact your vendor for compliant MIFARE® tags.

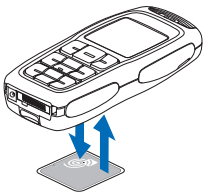
Place tags

You can place tags on any non-conductive material, such as glass, plastic, or wood.

Do not place tags on metal or other conductive surfaces, as it may prevent the RFID reader from being able to read the tags.

Touch tags with RFID reader

The RFID reader is located on the back of the lower part of the Nokia NFC shell, inside the area marked with .



When using the RFID reader, touch the tag with that area at close proximity. The reading range is typically 0-5 cm, depending on the tag type and size.

Create your own service shortcuts

With the Service Discovery application, you can create your own service shortcuts that you can use as you would use a service shortcut that you have read from a tag.

Gepe_UG_en.fm Page 13 Thursday, February 10, 2005 11:46 AM

4. Service Discovery application

Start and close the application

Note: If the application is not active when you touch a tag with the RFID reader, the phone automatically starts the application.

To manually start an application:

1. Press Menu > Applications > Collection > Select application > Service Discovery > Open.
   Please touch tag is displayed.

Note: If you receive an incoming call while using an application, you can answer the call normally and continue using the application after ending the call.

You can view basic information about the application in the *Please touch tag* view: select Options > *About*.

To close the application: in the *Please touch tag* view either press Exit or press .

Change application language

You can change the user interface language of the Service Discovery application by changing the language in your Nokia 3220 phone.

The supported languages are English, German, French, Spanish, Italian, Finnish, Norwegian, Polish, Danish, Dutch, Portuguese, and Swedish. If an

Gepe_UG_en.fm Page 14 Thursday, February 10, 2005 11:46 AM

unsupported language is selected as the phone language, the default language English is used for the application.

Read, view, and save a shortcut

Touching a tag with the RFID reader launches a shortcut contained in the tag.

To read a tag:

1. Touch the tag with the RFID reader.

   The phone flashes green lights on the sides of the cover and displays the shortcut defined in the tag. If the Service Discovery application is not on when reading a tag, the RFID shell recognises the presence of a tag and launches the application.

   Note: If the tag contains no information the phone flashes the red lights on the sides of the cover and gives an error message: *No shortcut on tag*, and prompts you to select a service shortcut to write to the empty tag: *Please select shortcut to write*. If the tag is empty and you don't yet have any shortcuts stored in your phone's memory, the phone prompts you to create a shortcut: *Please create a shortcut for writing*. If the empty tag is write-protected, the phone indicates this with the message: *Tag is write protected*.

2. Depending on the type of the shortcut, the phone either makes a phone call or sends an SMS to the predefined phone number, or connects to the predefined web site over a GPRS connection.

Gepe_UG_en.fm Page 15 Thursday, February 10, 2005 11:46 AM

Before completing the function defined in the shortcut, the phone asks you for a confirmation. To confirm, press **OK**, to decline, press **Cancel**.

3. To view the shortcut you read, perform step 1 and select **Options** > **Details**.
4. To save the shortcut you read into the phone memory, perform step 1 and select **Options** > *Details* > **Save**.

Create and edit a shortcut

You can create new shortcuts, and edit shortcuts saved in the phone memory. In the latter case, the old shortcut information and all related log data is deleted.

To create a shortcut:

1. In the *Please touch tag* view, select: **Shortc.** > **Add**.

   The options for the shortcut types you can create are displayed. If you already have shortcuts in your phone memory, you start creating new shortcuts by selecting **Shortc.** > **Options** > *Add* in the *Please touch tag* view.
2. Select the type of shortcut you wish to create.
3. Enter the information for all the shortcut fields:

   Having edited a field, press **OK**. If you wish to move back to a field you have already edited, select **Options** > *Back*.

   - *Call* - enter the name of the shortcut and the number to which the phone call is to be made.

- *URL* - enter the name of the shortcut and the URL.
- *SMS* - enter the name of the shortcut, the number to which the SMS is to be sent, and the SMS text content.

When defining phone numbers for the *Call* and *SMS* functions, you can also use a phone number defined in your phone's *Contacts*:

1. When editing the phone number field, select **Options** > **Search**.
2. Select a contact on the list and press **Select**.
3. When the phone number is displayed, press **OK**.

If you later edit or delete the contact, this does not affect the information stored in the application in any way.

To edit a shortcut:

4. To edit a shortcut; in the *Please touch tag* view, select **Shortc.** > **Options**, scroll to the shortcut you want to edit and select *Edit*.
5. Edit the fields and select **OK**.
   When editing the shortcut information, if you wish to return to the previous information field, select **Options** > *Back*. Selecting **Options** > *Back* in the first information field takes you back to the *Shortc.* field and restores the shortcut information to what it was before editing. If you wish to change the phone function for the shortcut, you must define the shortcut again.

Give a shortcut

To give a shortcut into a compatible phone:

Gepe_UG_en.fm Page 17 Thursday, February 10, 2005 11:46 AM

1. In the *Please touch tag* view, select **Shortc.**.
2. Scroll to the shortcut you want to give and select **Options** > *Give*.

   The phone displays the text: *Please touch other phone*.
3. Hold your phone 0-3 centimetres from the shortcut recipient's phone so that the NFC logos face each other (see picture). If giving a shortcut succeeded, the phone displays the message: *Giving successful*. If giving a shortcut failed, the phone displays an error message.

Launch a shortcut and write into a tag

To launch a shortcut:

1. In the *Please touch tag* view, select **Shortc.**.
2. Scroll to the shortcut you want to launch and select **Launch**.
   The phone asks for a confirmation to perform the shortcut function. To confirm, press **OK**, to decline, press **Cancel**.

   To write into a tag:
3. To write shortcut into a tag, perform step 1, scroll to the shortcut which you want to write, and select **Options** > *Write*.
   The phone displays the text: *Please touch tag*.
4. Hold your phone 0-3 centimetres from the tag into which you want to write. If writing the shortcut succeeded, the phone displays the

Gepe_UG_en.fm Page 18 Thursday, February 10, 2005 11:46 AM

message: *Writing successful*. If the writing failed, the phone displays an error message. You can overwrite the shortcut information in the tags you have created as many times as you wish.

Delete a shortcut

To delete a shortcut:

1. In the *Please touch tag* view, select **Shortc.**.
2. Select the shortcut you wish to delete and select **Options** > *Delete*. If you wish to delete all shortcuts, select **Options** > *Delete all*.
3. When the phone asks you for a confirmation, press **OK**.

   Information about the shortcut and all related log data is deleted.

View the log

In the Service Discovery application log, you can view the phone calls that have been made, the SMS messages that have been sent, and the web sites that have been connected to through the application. The log stores the 20 most recent log events.

To view the log:

1. In the *Please touch tag* view, select **Options** > *Log*.
   A list of the events logged for the tag is displayed. Events are listed in chronological order, starting with the most recent event.
2. To delete a logged event, select the log event you wish to delete and select **Options** > *Delete*.

Gepe_UG_en.fm Page 19 Thursday, February 10, 2005 11:46 AM

3. If you wish to delete all logged events, select Options > *Delete all* > OK.
4. To view detailed information about a logged event, select the event on the list and press Details.

Gepe_UG_en.fm Page 20 Thursday, February 10, 2005 11:46 AM

Care and maintenance

Your device is a product of superior design and craftsmanship and should be treated with care. The suggestions below will help you protect your warranty coverage.

- Keep the device dry. Precipitation, humidity and all types of liquids or moisture can contain minerals that will corrode electronic circuits.
- Do not use or store the device in dusty, dirty areas. Its moving parts and electronic components can be damaged.
- Do not store the device in hot areas. High temperatures can shorten the life of electronic devices, damage batteries, and warp or melt certain plastics.
- Do not store the device in cold areas. When the device returns to its normal temperature, moisture can form inside the device and damage electronic circuit boards.
- Do not attempt to open the device other than as instructed in this guide.
- Do not drop, knock, or shake the device. Rough handling can break internal circuit boards and fine mechanics.
- Do not use harsh chemicals, cleaning solvents, or strong detergents to clean the device.
- Do not paint the device. Paint can clog the moving parts and prevent proper operation.
- Use a soft, clean, dry cloth to clean any light sensors lenses.

If the device is not working properly, take it to your nearest authorized service facility for service.

Gepe_UG_en.fm Page 21 Thursday, February 10, 2005 11:46 AM

FCC/INDUSTRY CANADA NOTICE

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Changes or modifications not expressly approved by Nokia may void the user's authority to operate the equipment.

Your device may cause TV or radio interference (for example, when using a device in close proximity to receiving equipment). The FCC or Industry Canada can require you to stop using your device if such interference cannot be eliminated. If you require assistance, contact your local service facility.

Gepe_UG_en.fm Page 22 Thursday, February 10, 2005 11:46 AM