

# Nokia Test Criteria for Java™ ME Applications

Version 1.0; April 4, 2006

Testing

**NOKIA**

Copyright © 2006 Nokia Corporation. All rights reserved.

Nokia and Forum Nokia are registered trademarks of Nokia Corporation. Java and all Java-based marks are trademarks or registered trademarks of Sun Microsystems, Inc. Other product and company names mentioned herein may be trademarks or trade names of their respective owners.

#### **Disclaimer**

The information in this document is provided “as is,” with no warranties whatsoever, including any warranty of merchantability, fitness for any particular purpose, or any warranty otherwise arising out of any proposal, specification, or sample. Furthermore, information provided in this document is preliminary, and may be changed substantially prior to final release. This document is provided for informational purposes only.

Nokia Corporation disclaims all liability, including liability for infringement of any proprietary rights, relating to implementation of information presented in this document. Nokia Corporation does not warrant or represent that such use will not infringe such rights.

Nokia Corporation retains the right to make changes to this specification at any time, without notice.

#### **License**

A license is hereby granted to download and print a copy of this specification for personal use only. No other license to any other intellectual property rights is granted herein.

## Contents

<b>1</b>	<b>Introduction</b> .....	<b>5</b>
<b>2</b>	<b>Nokia test cases</b> .....	<b>5</b>
2.1	Power consumption test .....	5
2.2	Nokia values for applications .....	6
2.3	User interface requirements.....	7
2.3.1	User interface requirements for Series 40 and S60.....	7
2.3.2	User interface requirements for Series 80, command buttons .....	7
2.3.3	User interface requirements for Series 80, menus .....	8
2.3.4	User interface requirements for Series 80, indication of process.....	9
2.3.5	User interface requirements for Series 80, zoom.....	9
2.4	Interaction .....	10
2.4.1	Interaction requirements, SMS/MMS notification, and alarm clock .....	10
2.4.2	Interaction requirements, pausing the application .....	10
2.5	Specific tests for games.....	11
<b>3</b>	<b>Evaluate this resource</b> .....	<b>12</b>

## Change history

April 4, 2006	Version 1.0	Initial document release Revision on October 3, 2006: minor editorial changes

## 1 Introduction

This document describes the test cases which are conducted to Java™ Platform, Micro Edition (Java™ ME) applications in addition to Unified Testing Criteria (UTC). Meeting Unified Testing Criteria is a requirement for Java Verified™. All applications that will be embedded to Nokia devices as part of Total Product Offering (TPO) or operator variant project should be tested according to these test cases. Meeting Nokia test criteria is a requirement for third-party applications which are delivered via Nokia sales channels, including:

- Preinstalled to ROM, memory card, or hard-disk drive
- CD-ROM in the device sales package
- Catalogs client, Nokia Web/mobile Web page download

The test cases are applicable to applications targeted at Series 40, S60, Series 80, and Nokia 7710 devices. These tests are done simultaneously with Unified Testing Criteria available at [www.javaverified.com](http://www.javaverified.com).

## 2 Nokia test cases

### 2.1 Power consumption test

Power consumption of the application	
<b>Test description:</b> The application must not consume battery power excessively.	
<b>Steps to conduct the test:</b> <ul style="list-style-type: none"> <li>• Check that the battery of the device is full.</li> <li>• Start the application.</li> <li>• Perform the test cases described in this document and in Unified Testing Criteria.</li> <li>• Check the battery level after finishing the tests.</li> </ul>	<b>Expected results:</b> <ul style="list-style-type: none"> <li>• The battery level has not decreased radically.</li> <li>• A decrease of maximum one bar is accepted.</li> </ul>

## 2.2 Nokia values for applications

<b>Nokia values</b> <b>Test description:</b> <b>Applications must be in line with Nokia values and therefore must not have any references to the issues listed below.</b>	
<b>Steps to conduct the test:</b> While using the application, check that the application does not have any references to: <ul style="list-style-type: none"> <li>• Excessive violence and gratuitous depiction of violence against humans/animals (e.g., no suicidal bombers, killing of innocent or outsider humans)</li> <li>• Depictions of pornography or pedophilic imagery</li> <li>• Drinking of alcohol</li> <li>• Substance misuse including drugs and drug taking</li> <li>• Smoking</li> <li>• Overuse of swearing</li> <li>• Racism</li> <li>• Overtly political messages, e.g., terrorism, generic battle/fight between the races, slavery/slave trade are not OK, contentious political/global events in historical context, e.g., Battle Field 1942 is OK</li> <li>• Religious imagery, unless in real-life context</li> <li>• Gambling using real money</li> <li>• Promotions of criminality, criminal actions (depiction of criminal activity, where the player is the perpetrator of the crime)</li> <li>• Material targeted and marketed solely at young children, e.g., Teletubbies</li> <li>• Nokia, e.g., name or logo (except if explicitly agreed upon with Nokia)</li> </ul>	<b>Expected results:</b> The application does not have any references to the listed items.
PASS <input type="checkbox"/> FAIL <input type="checkbox"/> PASSED WITH EXCEPTION <input type="checkbox"/>	

## 2.3 User interface requirements

### 2.3.1 User interface requirements for Series 40 and S60

User interface requirements for Series 40 and S60	
<p><b>Test description:</b> The application UI components are in line with the Nokia UI style guides.</p>	
<p><b>Steps to conduct the test:</b></p> <ul style="list-style-type: none"> <li>• Check that the label for the right softkey is in line with the Nokia UI style guides.</li> <li>• Check that the middle softkey is used for the most probable action but not any negative/backward functioning commands.</li> <li>• The open application is in FullCanvas mode.</li> <li>• Check that it is possible to go back to the main menu from the screens accessible from it.</li> <li>• Open a List, Command List, or Choice Group.</li> </ul>	<p><b>Expected results:</b></p> <ul style="list-style-type: none"> <li>• The label for the right softkey (if defined by the developer) is Back, Quit, Exit, Cancel, Clear, or refers to another negative/backward function.</li> <li>• The middle softkey cannot have any negative/backward commands. The middle softkey should have the most probable action that the user may take next, but not Exit or Back (or other negative functions).</li> <li>• If 2 (/3) commands or less are implemented (for example, Select and Exit) a FullCanvas is used and the softkeys are labeled as the commands, except for the game screen.</li> <li>• It is possible to go back to the main menu from the screens accessible from it. This is valid also for the Settings/Options screen (if any), High Scores (if any), Instructions/Help, and About. There are no dead ends in the application.</li> <li>• The order of the items (in a List, Command List, Choice Group) decreases per frequency of use, except for Exit, which is the last item in the menu.</li> </ul>

### 2.3.2 User interface requirements for Series 80, command buttons

User interface requirements for Series 80, command buttons	
<p><b>Test description</b> The application UI components are in line with the <a href="#">Series 80 UI Style Guide</a>.</p>	
<p><b>Steps to conduct the test:</b></p> <ul style="list-style-type: none"> <li>• Check that Command Button labels are in line with the Series 80 UI Style Guide.</li> </ul>	<p><b>Expected results:</b></p> <p>CB1: Context command, accepting, selecting, starting, positive, possible default command. If no command is available in the context, the button is empty.</p> <ul style="list-style-type: none"> <li>• Examples: OK, Open, Select, Send, Start, Yes, Call, Connect, Set.</li> </ul> <p>CB2: CB1-like functionality, changing focus of view.</p> <ul style="list-style-type: none"> <li>• Examples: Edit, New, Add, Change window, Options.</li> </ul>

	<p>CB3: Deleting and removing, negative.</p> <ul style="list-style-type: none"> <li>• Examples: Delete, Remove, Deselect.</li> </ul> <p>CB4: Canceling, closing, exiting, ending, accepting changes in a dialog.</p> <ul style="list-style-type: none"> <li>• Examples: Done, Close, Disconnect, No, Exit, Cancel.</li> </ul> <p>Make sure that the command is dimmed if it is not available in CB2, CB3, and CB4.</p> <p>Make sure that “Exit” is in CB4 in the main level of the application.</p>
--	---

### 2.3.3 User interface requirements for Series 80, menus

<b>User interface requirements for Series 80, menus</b> <u>Test description</u> The application menus are in line with the <a href="#">Series 80 UI Style Guide</a> .	
<p><b>Steps to conduct the test:</b></p> <ul style="list-style-type: none"> <li>• Open a menu in the application.</li> <li>• Check that the menu structure is in line with the Series 80 UI Style Guide.</li> </ul>	<p><b>Expected results:</b></p> <ul style="list-style-type: none"> <li>• Standard menu items are used (see the Series 80 UI Style Guide).</li> <li>• The main level has six items or less horizontally.</li> <li>• Standard structure and order is used (if commands are needed): File, Edit, View, Insert, Format, Tools.</li> <li>• The main level has ten or less items vertically, preferably six.</li> <li>• Cascaded menus are used to decrease the amount of items on the main level.</li> <li>• Ellipses (...) are used at the end of menu items that open a dialog.</li> <li>• A menu item is dimmed if the current context does not enable the function.</li> <li>• Every dimmed item displays an information banner when the user attempts to select it.</li> <li>• A Check mark (✓) is shown in front of the item if it is a mode switch.</li> <li>• Menus within the different views of the same application have to be consistent with each other.</li> </ul>

## 2.3.4 User interface requirements for Series 80, indication of process

User interface requirements for Series 80, indication of process	
<b>Test description</b> <b>A progress bar or progress ball is displayed when the process requires time.</b>	
<b>Steps to conduct the test:</b> <ul style="list-style-type: none"> <li>• Open an application.</li> <li>• Select an action that requires time (e.g., download a file).</li> </ul>	<b>Expected results:</b> <ul style="list-style-type: none"> <li>• Make sure that a progress bar is used when the process requires time and the duration of the process can be estimated. Canceling the process is enabled (CB4 Cancel).</li> <li>• Make sure that a progress ball is used when the process requires time and the duration of the process cannot be estimated. Animation indicates that the system is busy. Canceling the process is enabled (CB4 Cancel).</li> </ul>

## 2.3.5 User interface requirements for Series 80, zoom

User interface requirements for Series 80, zoom	
<b>Test description</b> <b>Zoom works according to the <a href="#">Series 80 UI Style Guide</a>.</b>	
<b>Steps to conduct the test:</b> <ul style="list-style-type: none"> <li>• Open an application that uses zoom.</li> <li>• Check that zoom works as specified in the Series 80 UI Style Guide.</li> </ul>	<b>Expected results:</b> If zoom is used, make sure that: <ul style="list-style-type: none"> <li>• The layout in all zoom levels is correct, i.e., layout does not break.</li> <li>• Long strings are truncated with ellipses instead of being abruptly cut.</li> <li>• Zoom buttons (Chr + Arrow Up/Down) change application zoom levels.</li> <li>• The zoom levels are not looping.</li> <li>• Menu items should dim when the maximum/minimum zoom limit is reached.</li> <li>• An information banner is shown when the maximum/minimum zoom limit is reached and the user tries to continue zooming beyond the limit.</li> </ul>

## 2.4 Interaction

### 2.4.1 Interaction requirements, SMS/MMS notification, and alarm clock

Interaction requirements, SMS/MMS notification, and alarm clock	
<p><b>Test description</b></p> <p>Notification of an incoming SMS or MMS (both with MIDI and normal tunes) and alarm clock can be heard properly during interaction with the application.</p>	
<p><b>Steps to conduct the test</b></p> <ul style="list-style-type: none"> <li>• Open the application.</li> <li>• Use another device to send an SMS and an MMS message (with MIDI and normal tunes).</li> <li>• Check that the notification of the coming SMS/MMS can be heard.</li> <li>• Set the clock of the device to alarm at a certain time when the application is running.</li> <li>• Check that the alarm clock can be heard.</li> </ul>	<p><b>Expected results</b></p> <ul style="list-style-type: none"> <li>• Notification of an incoming SMS and alarm clock (both with MIDI and normal tunes) can be heard properly during the interaction with the application. When testing games, check that the notification is heard while the user is playing.</li> <li>• Notification of an incoming MMS (both with MIDI and normal tunes) can be heard properly during interaction with the application.</li> <li>• Alarm clock can be heard.</li> </ul>

### 2.4.2 Interaction requirements, pausing the application

Interaction requirements, pausing the application	
<p><b>Test description</b></p> <p>Application goes to paused state when the Power key, Menu key, or End key is pressed.</p>	
<p><b>Steps to conduct the test</b></p> <ul style="list-style-type: none"> <li>• Open the application.</li> <li>• Press the Power key, Menu key, and End key (red key).</li> <li>• Check that the application goes to paused state when one of the keys is pressed.</li> <li>• Check that it is possible to continue using the application after pausing it.</li> </ul>	<p><b>Expected results</b></p> <ul style="list-style-type: none"> <li>• The application goes into the paused state when the Power button is pressed. After that it is possible to continue using the application with the Continue option (and it shows the profiles and other options). This is valid only for applications whose status needs to be paused, i.e., in S60 devices.</li> <li>• When the Menu key is pressed, the application goes to the background and to the paused state, and the device's other applications work without problems (for example, taking an image, viewing it, modifying the profiles, starting another MIDlet). After that it is possible to continue the application with the Continue option. The paused state is valid only for applications whose status needs to be paused, i.e., in S60 devices.</li> <li>• The application goes into the paused state when the red key is pressed and</li> </ul>

	<p>the telephone view is displayed. After that it is possible to go to the application and continue it with the Continue option. This is valid only for applications whose status needs to be paused, i.e., in other S60 devices than S60 Platform 2nd Edition, Feature Pack 3).</p>
--	--

## 2.5 Specific tests for games

<p><b>Specific tests for games</b></p> <p><b><u>Test description</u></b></p> <p><b>The game indicates the current status clearly and provides feedback. Each rule/function of the game is clear. When the game is over, feedback is provided and there is no paused game session to continue.</b></p>	
<p><b>Steps to conduct the test:</b></p> <ul style="list-style-type: none"> <li>• Open the game and start playing.</li> <li>• Check that the current status of the game is clear and feedback is provided.</li> <li>• Check that the rule/function of each element is clear.</li> <li>• Quit the game.</li> <li>• Check that some feedback is provided when the game is over.</li> <li>• Check that there is no paused game session to continue when the game is over.</li> </ul>	<p><b>Expected results:</b></p> <ul style="list-style-type: none"> <li>• The current status of the game is clear and feedback is provided (for example, number of lives available, current level, current score).</li> <li>• The rule/function of each element of the game is clear (for example, how the player and the enemies are represented and how they interact).</li> <li>• When the game is over, feedback is provided. This includes a warning that the game is over, total score (if any), who won (for example, if the game is played between the device and the player), other game-dependent features (for example, level), and what to do next.</li> <li>• When a game is over, there is no paused game session to continue.</li> </ul>

### 3 Evaluate this resource

Please spare a moment to help us improve documentation quality and recognize the resources you find most valuable, by [rating this resource](#).