Unified Testing Criteria for Java TM technology-based applications for mobile devices

Version 3.1

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1 Introduction

1.1 Purpose

This document defines Unified Testing Criteria for Java(TM) Technology-based Applications ("Java Applications") running on mobile devices utilizing the Java™ ME technology. The document includes both MIDP 1.0, MIDP 2.0 and MIDP 2.1 and some additional JSRs included in different manufacturers devices.

1.2 Scope

This document specifies testing requirements related to the operating characteristics of a Java application that runs on mobile devices such as handsets. The tests are organized by requirement category, such as usability, functionality, security, etc.
The testing is performed within a larger context. That is, some amount of pretesting will have occurred and some amount of post testing will also occur. Both of these activities have no bearing on the tests described within this document (except where pretesting determines that certain JSR requirements are being violated, in which case the application must be corrected before being submitted for post testing). This document does, however, acknowledge the presence and the importance of pretesting and post testing mobile applications.
The document does **not** address the following:

- Content censorship (i.e. assessment against standards for violence, gambling, political messaging etc.) for the purpose of preventing the deployment or sale of an application. Distribution, DRM etc.
- Testing requirements specific to a particular manufacturer's (or network operator's) device, user interface, and standards (e.g. WAP) implementation.

1.3 Definitions, Acronyms, and Abbreviations

Acronym	Definition
API	Application Program Interface
DRM	Digital Rights Management
Java™ ME	Java™ Platform Micro Edition
MIDP	Mobile Information Device Profile
OTA	Over The Air
WAP	Wireless Application Protocol
JSR	Java Specifications Request
SKU	(Stock Keeping Unit) means one build of an application. In other words one JAD/JAR pair.
AC, ST, AL, UI, LO, FN, CO, PI,	Please refer to Chapter 3.2

2 Testing Options

2.1 Normal Testing

In the document table of supported devices there are three concepts which should be understood.

1) Device Group
    a. A device group consists of a lead device and other similar devices in that group.
    b. These devices commonly have the same screen size and the same JSRs.
2) Lead Device
    a. A selected device from the group, commonly the first one to be available in the market.
    b. Testing will be done on the lead device for the device group. Test houses commonly only have access to the lead devices which are used in the testing even if the application is targeting an other device in the device group.
3) Platform
    a. Device platforms are specified by the device manufacturers and consist of multiple device groups.

Please refer to the Table of Supported Devices at: www.javaverified.com to find more details.

The developer can submit applications in different ways. This reflects to the testing which the application will receive.

1. Single Application Testing (one jad / jar pair)

a) One SKU targeting one device
- The full test criteria is used for the testing.

b) One SKU targeting multiple lead devices or multiple device groups.
- A full test is only required on one of the targeted lead devices per device platform. The test house will select which lead device to use.
- The SKU must also be tested on the other targeted lead devices in that platform but only with a reduced number of test cases.

2. Multiple Application Testing (multiple jad / jar pair)

- When submitting multiple SKUs for the same application title, at the same submission, only one selected reference SKU per platform will go though full Java Verified testing.
- Rest of the submitted SKUs will go through a limited number of tests.

Basic Logic for the concept of limited number of test cases.

- The application must install OTA and start within 25 seconds. (AL1, AL2)
- The application must not crash or freeze (ST1)
- The application characteristics and declarations must be properly filled in (AC2, SE1)
- If a new language is tested all language tests must be used. (LO1-LO4)
- If a new phone is used the application must be able handle an incoming phone call and an incoming sms. The response time and speed must also be tested (FN2, FN3, FN12, FN13)
- If a new screen size is used the application graphics must be tested and the application must be free of technical text errors (UI1, LO4)

Please note: Errors found during the full testing will also be tested for not to be found when doing the reduced testing of the application. Please see the test case ST3 for details.

2.2 Examples

Example 1: One SKU targeting one device.

- The SKU must go though full Java Verified testing.

Example 2: One SKU targeting two devices in different device platforms.

- The SKU is tested with the full test criteria on the two devices.

Example 3: One SKU targeting two devices with the same screen size in different device groups.

- The SKU is tested with the full test criteria on one of the devices; the test house selects this device.
- On the second device only a limited number of test cases are used.
- Limited test cases:
    - AL1, AL2
    - ST1, ST3
    - FN2, FN3, FN12, FN13

Example 4: One SKU targeting two devices with different screen size in different device groups.

- The SKU is tested with the full test criteria on one of the devices; the test house selects this device.
- On the second device only a limited number of test cases are used including screen size testing.
- Limited test cases:
    - AL1, AL2
    - ST1, ST3

- FN2, FN3, FN12, FN13
- UI1, LO4

Example 5: Multiple SKUs targeting one device. Each SKU has a different language.
- One SKU is tested with the full test criteria.
- Rest of the SKUs is tested with a limited number of test cases.
- Limited test cases:
  - AL1, AL2
  - ST1, ST3
  - AC2, SE1
  - FN2, FN3, FN12, FN13
  - LO1, LO2, LO3, LO4

Example 6: Two SKUs targeting two lead devices in the same platform with the same screen size.
- One SKU is tested with the full test criteria; the test house selects the used device.
- The second SKU is tested with a limited number of test cases.
- Limited test cases:
  - AL1, AL2
  - ST1, ST3
  - AC2, SE1
  - FN2, FN3, FN12, FN13

Example 7: Two SKUs in different languages targeting two lead devices in the same platform with different screen size.
- One SKU is tested with the full test criteria.
- The second SKU is tested with a limited number of test cases including language and screen size testing.
- Limited test cases:
  - AL1, AL2
  - ST1, ST3
  - AC2, SE1
  - FN2, FN3, FN12, FN13
  - LO1, LO2, LO3, LO4
  - UI1

Example 8: Eight SKUs targeting eight different lead devices in two different platforms.
- Two SKUs, one for each platform, is tested with the full test criteria.
- Rest of the SKUs are tested with a limited number of test cases where some including screen size testing.
- Please refer to the table below for details.

SKU	Device Group	Lead Device	Screen Size	Language	Ref App	All Tests	Localization tests*	UI1	Phone Tests**	"Base" Tests***
1	Plat1	A	240*320	ENG, SWE, FIN	X	X				
3	Plat1	B	240*320	ENG,					X	X

				SWE, FIN						
4	Plat1	C	176*220	ENG, SWE, FIN			LO4	X	X	X
5	Plat1	D	176*220	ENG, SWE, FIN					X	X
6	Plat1	E	320*240	ENG, SWE, FIN			LO4	X	X	X
7	Plat1	F	320*240	ENG, SWE, FIN					X	X
8	Plat2	G	320*240	ENG, SWE, FIN	X	X				

* X means full localization test according to localization chapter.
** FN2, FN3, FN12, FN13 – Tests to conduct when a new phone model is used for testing.
*** AL1, AL2, ST1, ST3, AC2, SE1 – Test to conduct on all SKUs.

Example 9: A whole application title of 25 SKUs is submitted, for devices from three different manufacturers. Each SKU includes five languages (so called EFIGS set).

- The 25 SKUs are divided as follows:
    - 10 to manufacturer A, 3 different platforms: X (5SKUs), Y (3SKUs) and Z (2SKUs)
    - 10 to manufacturer B, 2 different platforms: Ä (5SKUs) and Ö (5SKUs)
    - 5 to manufacturer C, targeting to 5 different devices. No platforms are specified for these devices.
- Please refer to the table below for details.

SKU	Device Group	Lead Device	Screen Size	Language	Ref. App.	All Tests	Localization Tests*	UI1	Phone Tests**	"Base" Tests***
1	PlatAX	A	128*128	EFIGS	X	X				
2	PlatAX	B	128*160	EFIGS			LO4	X	X	X
3	PlatAX	C	96*65	EFIGS			LO4	X	X	X
4	PlatAX	D	208*208	EFIGS			LO4	X	X	X
5	PlatAX	E	240*320	EFIGS			LO4	X	X	X
6	PlatAY	F	128*160	EFIGS	X	X				
7	PlatAY	G	240*320	EFIGS			LO4	X	X	X
8	PlatAY	H	208*208	EFIGS			LO4	X	X	X
9	PlatAZ	I	240*320	EFIGS	X	X				
10	PlatAZ	J	208*208	EFIGS			LO4	X	X	X
11	PlatBÄ	K	128*160	EFIGS	X	X				
12	PlatBÄ	L	176*220	EFIGS			LO4	X	X	X
13	PlatBÄ	M	240*320	EFIGS			LO4	X	X	X
14	PlatBÄ	N	208*320	EFIGS			LO4	X	X	X
15	PlatBÄ	O	640*800	EFIGS			LO4	X	X	X
16	PlatBÖ	P	128*160	EFIGS	X	X				
17	PlatBÖ	Q	176*220	EFIGS			LO4	X	X	X
18	PlatBÖ	R	240*320	EFIGS			LO4	X	X	X
19	PlatBÖ	S	208*320	EFIGS			LO4	X	X	X
20	PlatBÖ	T	640*800	EFIGS			LO4	X	X	X
21	ManufC	U	176*204	EFIGS	X	X				
22	ManufC	V	240*299	EFIGS	X	X				
23	ManufC	X	176*205	EFIGS	X	X				
24	ManufC	Y	240*300	EFIGS	X	X				
25	ManufC	Z	176*205	EFIGS	X	X				

* X means full localization test according to localization chapter.

** FN2, FN3, FN12, FN13 – Tests to conduct when a new phone model is used for testing.
*** AL1, AL2, ST1, ST3, AC2, SE1 – Test to conduct on all SKUs.

2.3 Simple Application Testing

A simple application is defined as one which does not require midlet permissions or makes a connection for a single purpose. For these applications many of the tests in the full criteria would not be applicable so a sub-set has been defined. Reduced testing principles do not apply to Simple Applications. See Simple Application tests at section 5

2.4 Retesting An Application When It Has Failed The Previous Test Round

If an application has failed testing it can be submitted for retesting. During the retesting only previous failures will be checked. See retesting section in this document.

2.5 Retesting An Application With Manifest File Changes

If an application has previously been tested and is resubmitted with only changes in the Manifest file only a number of limited tests will be performed. Se retesting section in this document.

3 Test Case Organization

3.1 Organization

The manual test cases, which follow this section, are organized into ten different categories:

- Application Characteristics
- Stability
- Application Launch
- User Interface Requirements
- Localization
- Functionality
- Connectivity
- Personal Information Management
- Security

These categories cover applications using MIDP 1.0, MIDP 2.0, MIDP 2.1 and additional JSRs.

3.2 Test Category Descriptions

Application Characteristics (AC) – Information about the application is provided to help the test houses in the testing work.
Stability (ST) – Focusing on the application being stable on the device.
Application Launch (AL) – Once an application is loaded it must start (launch) and stop correctly in relation to the device and other applications on the device.
User Interface (UI) - The intent is to not specify exactly how to design a user interface but rather to give general guidelines. It is expected that publishers and network operators will further define the look and feel of an application's user interface to make it more in conformance with their overall look and feel.
Localization (LO) - Applications that are to be deployed to localities other than their point of origin must account for changes in language, alphabets, date and money formats, etc.
Functionality (FN) - Documented features are implemented in the application and work as expected. Sources for the information are user manuals, formatted application specification documents and online documentation.
Connectivity (CO) - If an application has communication capabilities then it must demonstrate its ability to communicate over a network correctly. It must be capable of dealing with both network problems and server-side problems.
Personal Information Management (PI) - The application accessing user information needs to be able to do it in an appropriate manner and not to destroy the information.
Security (SE) - Listing different security related issues tested from the applications.
Retesting (RE) - Tests specific to retesting only.

3.3 Pass/Fail Conditions

It is expected that an application must pass all the tests in each test category to be successful. Each test has an equal rating, so no scoring system is needed.

3.4 Test Report

For each report the following in formation must be available:

- The name of the developer
- The name of the application
- The version number of the application
- Date of the report
- Device used for testing
- Device firmware version

For each error reported in the report the following information must be available:

- Description of the error
- Reproducing rate of the error: Systematic, Random (if random try five times, then the result can be X out of 5), Once
- Location of the error in the application
- Steps to reproduce the error
- Potential error messages displayed

4 Tests

The tests are organized by test category. A description of the categories can be found in section 3.2.

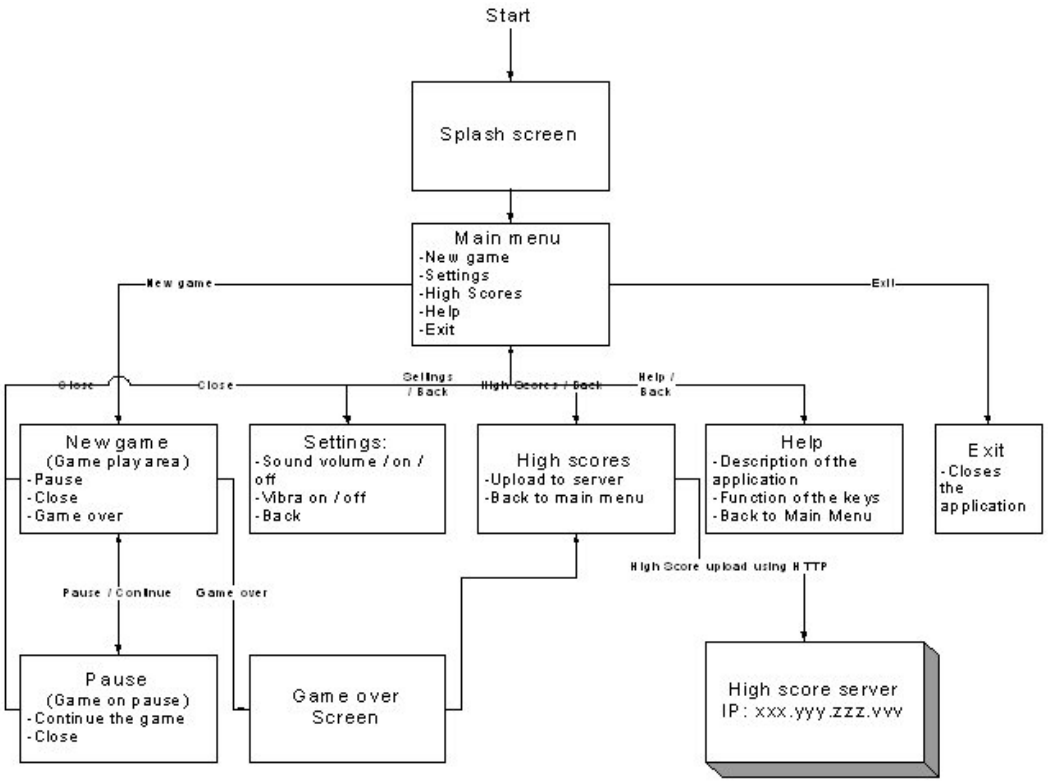
4.1 Prerequisite for Testing: Application Characteristics

For the testing to be comprehensive enough and to save testing time the developer must be able to provide the information introduced in this chapter about the application functionality.

A. Flow of the application

1. Name of each section
2. Description of each section
3. How to get to each section
4. Where to go from each section
5. Where passwords are used

The flow diagram must be provided in a JPG or GIF format. The application flow should be readable to the human eye and in an easily understandable form. An example can be seen below.



For supplying the following information a separate form will be available.

B. Connections:

1. Does your application create any connections or send messages? Yes / No
    a. If yes write down the phone number where
        i. Voice calls are made
        ii. SMSs are sent
        iii. MMSs are sent

2. Does your application send e-mails? Yes / No
    a. If yes, which e-mail address

3. Does your application create any HTTP connections? Yes / No
    a. If yes which URL's are used
    b. Is encryption used in the connection? Yes / No

4. Does you application use push registry?
    a. If yes please specify what functions are used:

Push feature (sms, mms, auto-start, etc.)	Jad / MANIFEST value	Static	Dynamic
		☐	☐
		☐	☐
		☐	☐
		☐	☐
		☐	☐

C. Accessed data:

1. Does your application access files or record stores existing in the device at the time of installation? Yes / No
    a. If it does, list of all files and record stores, which are not created by the application or provided by the application but are used by the application for example a calendar and information why such data is used
2. Does your application use or create any data? Yes / No
    a. If it does, list of all data used or created by the application

D. Branding:

1. Does your application use any advertising? (For example, state if your rally game has adverts of different companies displayed next to the track or if you are using a branded picture on your calendar application.) Yes / No
    a. If yes. Which brands are used and in which part of the application

2. If the logos or trademarked information of corporations are used in the application then the appropriate rights to use them must have been granted to the developer by the respected owner of the trademark.

3. Does your application use the Java Powered logo? Yes / No

E. Retesting:

1. The application does not have any added or changed functionality in the version sent to the retests. Yes / No / Not Applicable

2. Are you submitting an application to be retested on an alternative device? Yes/No
    a. What is the version number of your application that has been previously tested?

3. Are you submitting an application to be retested due to Manifest file changes? Yes/No
    a. What is the version number of your application that has been previously tested?

F. Declarations:

1. Does your application override system or virtual machine generated security prompts or notifications or deceive the user by displaying misleading information just before a security prompt is shown to the user? Yes / No
2. Does your application simulate security warnings to mislead the user? Yes / No
3. Does your application simulate key-press events to mislead the user? Yes / No
4. Does your application run in the sandbox environment and not exploit any malicious means of exiting the sandbox environment? Yes / No
5. List below all permissions that the MIDlet suite under test is requesting via MIDlet-Permissions and MIDlet-Permission-Opt attributes of the JAD and Manifest file.

MIDlet-Permission List	MIDlet-Permission-Opt List

6. Does your application use system.properties? Yes / No
   - If YES please declare all the properties in full below:

AC1	Application flow	
Test Description The information in the flow of the application must be provided according to the application specification.		
Steps to conduct the test 1. Open the flow of the application document 2. Read it through and observe that it has all the required bits of information.		*Expected Result* -Each section is named with a descriptive name. -Each section has a description of the functions it holds. -The flow on the chart displays how to enter to each section, how to get out from the section and where can the user enter from each section. -Possible password usage is also indicated in a section.
Notes		*Exceptions*
PASS ☐	FAIL ☐	PASSED WITH EXCEPTION ☐

AC2	Application information	
Test Description The application characteristics document must be properly filled.		
Steps to conduct the test 1. Open the application characteristics document 2. Read it through and observe that it has all the required bits of information.		*Expected Result* -The document is available -All the sections of the document has been filled in and questions are answered
Notes		*Exceptions*
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

4.2 Application Behaviour During Test

ST1	Application stability	
Full Description The application must not crash or freeze at any time while running on the device.		
Steps to conduct the test 1. Observe the application behaviour during the testing	*Expected Result* -The application must not stop the user experience unexpectedly without any user input.	
Notes -During any time of the testing observe the application behaviour -The report must indicate if the error can be reproduced or not	*Exceptions* -	
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

ST2	Power Consumption (Observation Only)	
Full Description The application does not consume battery excessively.		
Steps to conduct the test 1. Check that the terminal's battery is full 2. Perform the tests described in the present document (Java Verified Unified Testing Criteria) 3. Check the battery level after finishing the tests 4. Verify that the battery level has not decreased radically. 5. Record the result of the observation in the test report.	*Expected result* - The battery level has not decreased radically - A decrease of 20% of the initial charge is acceptable.	
Notes - This is not a requirement but an observation, i.e. the result of this test does not have an effect on the overall pass/fail verdict, but will be documented in the test report - The goal of this observation is to draw attention to and spot potential issues with battery consumption early on	*Exceptions*	
PASS €	PASSED WITH EXCEPTION €	

ST3	Reduced testing	
Full Description Errors found during the full testing will also be tested for not to be found when doing the reduced testing of the application.		
Steps to conduct the test 1. Observe the errors found from the full test of the application title 2. Confirm that such errors are not found from the applications which receive the reduced testing.		*Expected Result* -The applications receiving reduced tests must not include the errors found from the full testing.
Notes		*Exceptions* -
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

4.3 Application Launch

AL1	Application Installation	
Test Description The application must install via OTA		
Steps to conduct the test 1. Open the browser application of the device 2. Type the URL of the application JAD file 3. Connect to the typed URL 4. Accept the installation of the application		*Expected Result* -The application installs to the device -The icon for the application can be found from the device
Notes If errors occur at installation time, corresponding messages must be reported by the test house in the test report.		*Exceptions* If the device does not display the icon, then the user must be able to start the application using other means.
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

AL2	Application start up
Test Description Application must start properly in 25s.	
Steps to conduct the test 1. Find the application icon and select it 2. "Press a button" on the device to launch the application 3. Observe the application launch In the timeline defined 4. The application should have displayed a main menu or interactive menu such as language selection screen where the use of the application can be started 5. Use some of the application features	*Expected Result* -The application starts in 25s or less, this is the time between steps 2 and 4 -No error messages are displayed -The application appears to function properly
Notes If launch time errors occur, corresponding messages must be reported by the test house in the test report. This test does not take into consideration the different screens displayed between the "button press" and the display of the main menu of the application. For example branded splash screen.	*Exceptions*
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐	

4.4 User Interface

UI1	Graphic clarity

Full Description

All graphics and animations displayed must be readable and clear to the user.

Steps to conduct the test	*Expected Result*
1. Launch application in target language 2. Check graphics appearing in a) Splash/Title/Logo/Loading Screen b) Main Menu and all its subsidiary menus c) Help/Instructions Screen(s) d) About screen e) Application Pause Menu and all its subsidiary menus (if present) 3. Repeat steps 1 and 2 for each language version of the game	-The application must utilise the full screen size available to them, applicable to the target device. - If device's screen orientation can be changed during application execution (e.g. from portrait to landscape mode) the application must adapt its appearance accordingly, so that the requirement above is still met - There should be no event in the defined areas of the application that would prevent the user from understanding the functionality of the application. For example: a graphical display issue including but not necessarily limiting to the following: overlapping graphics, colour conflict, images truncated and/or displayed incorrectly
Notes -The test house will perform the test as specified above. -The developer must ensure that this requirement is fulfilled throughout the application. -Definition of full screen may vary from device manufacturer to manufacturer. For example, the status bar at the top of the screen may remain during full screen mode display. - This test should be run in Portrait mode for all devices. For devices which support Landscape mode, Steps 1 and 2 should be run a second time in this mode.	*Exceptions* - Step 2(a) is omitted where the application does not have this screen.

PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐

UI2	UI consistency
Full Description The user interface of the application must be consistent throughout the application	
Steps to conduct the test 1. Start the application 2. Use the application in the following areas: a) Splash/Title/Logo/Loading Screen b) Main Menu and all its subsidiary menus c) Help/Instructions Screen(s) d) About screen e) Application Pause Menu and all its subsidiary menus (if present) 3. Observe the consistency of: a) Common series of actions b) Action sequences c) Terms d) Layouts e) Soft key definitions f) Use of vibration g) Sounds	*Expected Result* -The actions are sequenced in the same way throughout the application -The application uses the same terms for the same things throughout the application -The soft key functionality is the same throughout the application (for example "Back" is always set for the right soft key) -The vibration is used for similar cases -The same sound is not used for different purposes -Two commands with different title must not execute the same action (for example close and exit both close the application) -Two different actions must not be named with a same title (for example exit must be used to exit the application to the devices and not to exit the application to the Main Menu, back could be used instead) -There are no menu orphans -The menu items open the functionality or option which is specified in the menu (for example selecting settings will open settings and not help)
Notes - Observe the consistency of the application through the testing -The test house will perform the test as specified above. -The developer must ensure that this requirement is fulfilled throughout the application.	*Exceptions*
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐	

UI3	Browsing through the application	
Full Description The browsing through the application and inputting information must be clear and without unnecessary steps.		
Steps to conduct the test 1. Start the application 2. Use the application in it's following areas: a) Splash/Title/Logo/Loading Screen b) Main Menu and all its subsidiary menus c) Help/Instructions Screen(s) d) About screen e) Application Pause Menu and all its subsidiary menus (if present) 3. Observe the application behaviour	*Expected Result* - Every user navigation/browsing interaction (button, menu item etc) must link directly to the screen or function described by the interaction label. There must be no intermediate screen or function. For example, a button with a 'Help' label must link directly to the Help screen.	
Notes -Use the application functionality map to help out to locate the right places -The test house will perform the test as specified above. -The developer must ensure that this requirement is fulfilled throughout the application.	*Exceptions*	
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

4.5 Localisation

Specifications:
1. Multilanguage applications
In case the application JAD/JAR pair incorporates several languages, the application will be tested using English by default (or any other language if English is not present). For all other languages of the same application only the test LO1 will be performed.

2. Single language applications
For any application JAD/JAR pair using only one language the entire criteria will be performed.

For other areas of the application, developers are responsible to ensure that all localisation criteria are respected throughout the application. Java Verified reserves the right to revoke approvals granted to any application that does not meet these criteria.

LO1	Localisation boot test	
Full Description Text present in the localised version of the application must be translated in the targeted language.		
Steps to conduct the test 1. Launch application in target language 2. Check text appearing in a) Splash/Title/Logo/Loading Screen b) Main Menu display 3. Exit the application 4. Repeat steps 1, 2 and 3 for each Language version of the application	*Expected Result* -The Main Menu is displayed -Text is displayed in the target language only	
Notes -This test is not checking for spelling errors or bad translation but rather to confirm that the appropriate language is displayed for each language version of the application (i.e. only French translations appear in the French version of the application). -Test houses will only check that the targeted language is appearing from loading the application to the display of the main menu. -An error will be reported if an entire screen is displayed in a different language than the targeted one.	*Exceptions*	
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

LO2	Translation accuracy	
Full Description In every language of the application, all text must be translated with respect to the application and the targeted language.		
Steps to conduct the test 1. Launch application in target language 2. Check text appearing in a) Splash/Title/Logo/Loading Screen b) Main Menu and all its subsidiary menus c) Help/Instructions Screen(s) d) About screen e) Application Pause Menu and all its subsidiary menus (if present)		*Expected Result* - No incorrect translations as defined in the notes must be present in the defined areas.
Notes -The test house will perform the test as specified above. -The developer must ensure that this requirement is fulfilled throughout the application -An error will be reported only if an entire sentence is not translated in the targeted language -A single word which is not translated properly will not result in an error		*Exceptions* -
PASS ☐	FAIL ☐	PASSED WITH EXCEPTION ☐

LO3	Spelling errors	

Full Description
The application must be free of spelling errors.
A spelling error is defined as a strict mis-spelling of a word (no grammar or punctuation rules will be applied). Missing diacrits and accents (e.g. acutes, cedillas, umlauts etc) will not be reported as spelling errors.

Steps to conduct the test	*Expected Result*
1. Launch application in target language 2. Check text appearing in a) Splash/Title/Logo/Loading Screen b) Main Menu and all its subsidiary menus c) Help/Instructions Screen(s) d) About screen e) Application Pause Menu and all its subsidiary menus (if present)	- No spelling errors must be present in the defined areas.
Notes -The test house will perform the test as specified above. -The developer must ensure that this requirement is fulfilled throughout the application	*Exceptions* -For English language, US way of spelling is acceptable.

PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐

LO4	Technical text errors

Full Description
The text in the application must be clear and readable.
The application must be free of technical text display issues such as: Text cut off / Text overlapping.

Steps to conduct the test	*Expected Result*
1. Launch application in target language 2. Check text appearing in a) Splash/Title/Logo/Loading Screen b) Main Menu and all its subsidiary menus c) Help/Instructions Screen(s) d) About screen e) Application Pause Menu and all its subsidiary menus (if present)	- All text located in the specified areas is displayed without technical display issues that prevent legibility.
Notes -The test house will perform the test as specified above. -The developer must ensure that this requirement is fulfilled throughout the application -All text in each target language is displayed without corruption, distortion or other display problems. Examples may include: a) Menu item text labels incorrectly aligned with cursor b) Button text label over-running the button area c) Text over-running other bounded text display areas (e.g. speech bubbles, user interface elements etc) d) Text not wrapping at the edge of the screen resulting in words being cut off e) Multiple pieces of text overlapping each other f) Text must not be cut horizontally This text will autodestruct in 5 seconds -> This text will autodestruct in 5 seconds	*Exceptions* -

PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐

4.6 Functionality

FN1	Application hidden features
Full Description The application does not introduce any hidden features, its functionality set is consistent with the help and it does not harm the data on the device.	
Steps to conduct the test 1. Install user's personal data to the device (for example calendar, contact, to-do, images, text files, documents, etc.) 2. Start the application 3. Familiarise your self with the help file 4. Use the application and all of its features for a time period of 15 minutes 5. Compare the application functionality map to the features you find and what is in the help file.	*Expected Result* -All the features are introduced in the Help, the application has no hidden features -The data inserted to the device has not been corrupted -The phone bill (or log) does not show any additional communication -The phone bill (or log or data GPRS counter, if applicable) does not show an excessive amount of transferred data -The other applications in the device must run as they did before application installation
Notes -The test house will perform the test as specified above. -The developer must ensure that this requirement is fulfilled throughout the application	*Exceptions* -Cheat codes -Unlocking the application, for example from demo version to a full version.
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐	

FN2	External incoming communication – voice call	
Full Description The application can handle incoming communications		
Steps to conduct the test 1. Start the application 2. In the following locations of the application: a) Main menu b) Application in use c) In use pause state (if applicable) 3. Make an incoming call to the device 4. Observe the application behaviour	*Expected Result* -When the incoming communication enters the device the application goes into pause state, after the user exits the communication, the application presents the user with a continue option or is continued automatically from the point it was suspended at	
Notes -The developer is encouraged to use the available APIs the pause and continue methods. -S60 devices may close the Java application if there is not enough RAM.	*Exceptions* -Not required for applications where the immediate user intervention is not needed (for example timer application)	
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

FN3	External incoming communication – SMS	
Full Description The application can handle incoming communications		
Steps to conduct the test 1. Start the application 2. In the following locations of the application: a) Main menu b) Application in use c) In use pause state (if applicable) 3. Send a SMS to the device 4. Observe the application behaviour	*Expected Result* -When the incoming communication enters the device the application must at least respect one of the following: a) Go into pause state, after the user exits the communication, the application presents the user with a continue option or is continued automatically from the point it was suspended at b) Give a visual or audible notification -The application must not crash or hang.	
Notes -The developer is encouraged to use the available APIs the pause and continue methods. -S60 devices may close the Java application if there is not enough RAM.	*Exceptions* -Not required for applications where the immediate user intervention is not needed (for example timer application) -Panasonic X400, X60	
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

FN4	External incoming communication – MMS	
Full Description The application can handle incoming communications		
Steps to conduct the test 1. Start the application 2. In the following locations of the application: a) Main menu b) Application in use c) In use pause state (if applicable) 3. Send an MMS to the device 4. Observe the application behaviour	*Expected Result* -When the incoming communication enters the device the application must at least respect one of the following: a) Go into pause state, after the user exits the communication, the application presents the user with a continue option or is continued automatically from the point it was suspended at b) Give a visual or audible notification -The application must not crash or hung.	
Notes -The developer is encouraged to use the available APIs the pause and continue methods. --S60 devices may close the Java application if there is not enough RAM.	*Exceptions* -Not required for applications where the immediate user intervention is not needed (for example timer application) -Panasonic X400, X60 -Siemens devices -Sagem devices	
PASS ☐	FAIL ☐	PASSED WITH EXCEPTION ☐

FN5	External incoming communication – Bluetooth	
Full Description The application can handle incoming communications		
Steps to conduct the test 1. Start the application 2. In the following locations of the application: a) Main menu b) Application in use c) In use pause state (if applicable) 3. Send a file using Bluetooth (if applicable) to the device 4. Observe the application behaviour	*Expected Result* -When the incoming communication enters the device the application must at least respect one of the following: a) Go into pause state, after the user exits the communication, the application presents the user with a continue option or is continued automatically from the point it was suspended at b) Give a visual or audible notification -The application must not crash or hung.	
Notes -The developer is encouraged to use the available APIs the pause and continue methods. -S60 devices may close the Java application if there is not enough RAM.	*Exceptions* -Not required for applications where the immediate user intervention is not needed (for example timer application) -Applications cannot use Bluetooth with Sharp devices.	
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

FN6	External incoming communication – infrared	
Full Description The application can handle incoming communications		
Steps to conduct the test 1. Start the application 2. In the following locations of the application: a) Main menu b) Application in use c) In use pause state (if applicable) 3. Send a file using Infrared (if applicable) to the device 4. Observe the application behaviour	*Expected Result* -When the incoming communication enters the device the application must at least respect one of the following: a) Go into pause state, after the user exits the communication, the application presents the user with a continue option or is continued automatically from the point it was suspended at b) Give a visual or audible notification -The application must not crash or hung.	
Notes -The developer is encouraged to use the available APIs the pause and continue methods. -S60 devices may close the Java application if there is not enough RAM.	*Exceptions* -Not required for applications where the immediate user intervention is not needed (for example timer application) -Panasonic X60 & X400, give no visual or audible notification. -Applications cannot use IrDA with Samsung E310, E700, E710, E810, X600 and Sharp devices.	
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

FN7	External incoming interruption – charging	
Full Description The application can handle incoming charging interruptions.		
Steps to conduct the test 1. Start the application 2. In the following locations of the application: a) Main menu b) Application in use c) In use pause state (if applicable) 3. Start charging the device 4. Observe the application behaviour		*Expected Result* -The device is charging -The application does not display an error or crash
Notes -The developer is encouraged to use the available APIs the pause and continue methods. -It is acceptable behaviour from the application to pause and ask user input or to continue with out pausing		*Exceptions*
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

FN8	Pause	
Full Description The application must support a pause feature in areas of the application where immediate user interaction is needed (for example in game). The pause feature must support an option to resume the application, and an option to go back to the main menu of the application.		
Steps to conduct the test 1. Start the application 2. Use the application and its features 3. Check that the user can pause the application at any time if so desired 4. Check that the application can also be "unpaused"	*Expected Result* -The user can pause the application and the pause feature must support an option to resume -All features of the application are disabled at the time of the pause -There is a clear indication that the application is at pause state -There is a clear indication how the user can get out from the pause state	
Notes -The developer is encouraged to use the available APIs for pause and continue methods.	*Exceptions* -Not required for applications where the immediate user intervention is not needed (for example timer application)	
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

FN9	Sound settings	
Full Description If applicable, there must be easy usable settings available to the user to set the sound effects of the application.		
Steps to conduct the test 1. Start the application 2. Go to the sound settings of the application 3. Disable / enable the sound feature 4. Make sure that the application respects the sound setup settings immediately (when the sounds are off, the application does not make a sound) 5. Change settings from the original and exit the application. Start the application again and see if the new settings are still there.	*Expected Result* -There are settings to set the sound on or off for the application -The application saves the settings on exit.	
Notes	*Exceptions*	
PASS ☐	FAIL ☐	PASSED WITH EXCEPTION ☐

FN10	Vibra settings	
Full Description If applicable, there must be easy usable settings available to the user to set the vibra effects of the application.		
Steps to conduct the test 1. Start the application 2. Go to the vibra settings of the application 3. Disable / enable the vibra feature 4. Make sure that the application respects the vibra setup settings immediately (when the vibra option is off, the application does not cause any vibration) 5. Change settings from the original and exit the application. Start the application again and see if the new settings are still there.	*Expected Result* -There are settings to set the vibra on or off for the application -The application saves the settings on exit.	
Notes	*Exceptions*	
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

FN11	Main menu requirements	
Full Description The main functionalities of Exit, Help and About are easily available through the main menu		
Steps to conduct the test 1. Start the application 2. Open the main menu 3. Check that Exit, Help and About are available 4. Check that Help displays the help information 5. Check that the help includes: aims of the application, use of keys (for example for games) and the descriptions of the application features. 6. Check that Exit menu item exits the application 7. Check the information on the About and compare it to the JAD and JAR's manifest file information	*Expected Result* -The main menu includes Exit, About and Help -Exit, About and Help both work as expected, without any error messages -About must include: a) Developer name b) Application name c) The exact version number of the application -It's consistent with the information found in the JAD file and JAR's manifest as follows: a) Developer name: MIDlet-Vendor b) Application name: MIDlet-Name c) The version number: MIDlet-Version	
Notes	*Exceptions* -The About can be included in to the Help menu	
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

FN12	Application response	
Full Description The application should never leave the user in a position where the state of the application is unknown or appears to be unresponsive (i.e. may have locked up).		
Steps to conduct the test 1. Start the application 2. Use the application 3. Observe the following parts of the application: a) Splash/Title/Logo/Loading screen b) Main menu and it's sub-menu screens c) Application usage d) Pause function of the application	*Expected Result* -The application notifies the user when the user needs to wait for something longer than 5 seconds - If the maximum wait time cannot be met, the application must show a visual indication to the user that something is happening. This must be displayed within 1 second from the start of the action.	
Notes -This does not include application start up for which AL2 is required.	*Exceptions* -	
PASS ☐	FAIL ☐	PASSED WITH EXCEPTION ☐

FN13	The speed of application in use	
Full Description The application works in the device it was targeted for. It is usable on the device. -The speed of the application is acceptable to the purpose of the application and must not alter the user experience by being uncontrollable.		
Steps to conduct the test 1. Use the application 2. Observe how fast the application is to use and if it is, too slow or too fast in it's operation 3. If the application behaviour is incontrollable due to it's speed please report such findings	*Expected Result* -The application is usable on the device -The speed of the application is good enough for the application usage, i.e. the application frame rate must remain adequate and must not compromise the application usage and therefore prevent the user to progress normally	
Notes -The developer / publisher is expected to test the entire application. For example play through the entire game. The test house will only conduct representative sample test of the application in different areas if possible, for a 15 minutes period only.	*Exceptions* -	
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

FN13 - TEST GUIDANCE

1)Goal of the criteria:

This criteria ensure that the application in use must work at an acceptable speed on the device for the end user. The user must be able to progress in the application. If he can't progress within the application due to it's speed, then this criteria will fail certification

2)Why this criteria - background.

It has been designed to answer some issues created by the porting system often used by content developers. As an example, if an application is ported from the master device to a secondary device, the application created for the secondary device following porting must not suffer from a lack of speed or an inappropriate acceleration when in use. The end user must have the same experience whether he uses the application on a master device or a secondary device.

3) How to test it. Tangible.

Each test house must concentrate the test on a specific tangible which is the **control**. In order to limit irrelevant bugs of "I feel like this is too slow/too quick" type. Every test must be defined in terms of user being in control of the application and therefore limit random testing fail.

At the test houses each tester must report when:

- The application is too slow
- The user can not control it in a timely manner due to a slow performance.

- The application does not allow the user to perform an action or to achieve a goal in the application as a result of slow speed and therefore prevent normal progression of the user.

Example: if in a main menu, the user can not choose an option as a result of a slow progression of the menu speed it goes against FN13 and therefore prevent control from user.

- The application is too quick
- The user can not control the application to achieve the goal due to an irrelevant high speed which prevents control.

Example: if within a game such as a car race like application, the user can not control the direction of his car because the default car speed is that quick, that it becomes difficult to finish the first lap of the track and qualify for the second race. Then clearly the application speed is too high, and prevents the user to finish the goal of the game.

4) Proofreading of FN13
The criteria requires really strict proofreading methods at each test house for the FN13 specific criteria to ensure validity of the issue, we therefore ask the following:

- When a FN13 check fails is reported by one tester, the issue should be looked at by a second tester with an agree/disagree assessment.
- The issue is then assessed by a "test coordinator" type person and if the criteria still receive a fail status assessment, a recommendation of fail should be sent by the test coordinator to a "test supervisor".
- The test house supervisor will assess the issue and grant authorisation to fail the FN13 or not.

Only then the issue can be included in the report as failed.

This process should be clearly stated in the bug report with names of the 2 testers/test coordinator/test supervisor.

5) Highlight
Finally to resume the FN13 criteria, this requirement should make sure that the end user can use the application in a normal manner. It has not been designed for the sake of reporting an issue; it has been designed to prevent developer to deliver inappropriate application on some devices that will go against the user experience.

FN14	Data deletion	
Full Description The application must indicate whether data will be permanently deleted or offer easy reversal of the deletion.		
Steps to conduct the test 1. Start the application 2. Use the function which deletes something on the application 3. Check if there is a reversal (undo) available for the user or that the user is notified before deletion is permanent	*Expected Result* -Before the data deletion, the application notified the user or the application has an "undo" feature. -If "undo" is present it works as expected.	
Notes -	*Exceptions* -	
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

FN15	Unexpected user behaviour	
Full Description The application must be able to handle unexpected user behaviour, for example erroneous actions and multiple key presses.		
Steps to conduct the test 1. Start the application 2. Press 2-5 different handset buttons simultaneously when: a) The application is loading b) On the main menu c) The application is in use d) The application is in pause state	*Expected Result* -The application does not crash or freeze, but functions as expected.	
Notes -If you press the handset override button ('end' key, red key, etc. depending on the manufacturer) the application will exit and that is not the purpose of this test -Please note that the Menu key in Series 60 devices will take the application to background -Some applications may not have pause	*Exceptions* -	
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

FN16	External incoming communication – video call	
Full Description The application can handle incoming communications		
Steps to conduct the test 1. Start the application 2. Make a video call to the terminal, while the application state is: a) in the main menu b) in use c) paused (if applicable) 3. Observe the application behaviour.	*Expected Result* - Interruption by an incoming video call causes the application to enter the paused state. After the video call ends, the application either continues from the point where it was interrupted or present the user an option to continue.	
Notes - Application developer should use relevant APIs to pause and resume the application - On S60 terminals, the system may close the application, if there is not enough memory available to handle the incoming video call. If this happens, an observation should be recorded.	*Exceptions* - not required for applications where the immediate user interaction is not needed (e.g. timer application) - not required if the target terminal doesn't support video calling. - not required if video calling is unsupported in the available networks.	
PASS ☐	FAIL ☐	PASSED WITH EXCEPTION ☐

FN17	System Shutdown	
Full Description Application must correctly handle situations where it is closed due to system shutdown (terminal switched off).		
Steps to conduct the test 1. Launch the application. 2. Use application features for some time (about one minute), performing tasks typical for the application 3. While the application is still running, switch off the terminal using the normal procedure (e.g. by pressing On/Off button or similar) 4. Switch the terminal back ON 5. Start the application 6. Observe the application behaviour.	*Expected result* - Application behaviour after the restart is similar to application's behaviour in a situation where the application was closed using the command in application's internal menu and then restarted.	
Notes - Test should be conducted using the application's main activity screen or the screen with the most interactive functions.	*Exceptions* - Not required if there is no standard way to switch off the terminal while the application is running.	
PASS €	FAIL €	PASSED WITH EXCEPTION €

FN18	External Interruption – Alarm Clock	
Full Description The application must allow the user to get alarm clock notification (audible or visual).		
Steps to conduct the test 1. Set up the alarm clock to make an alarm that will happen while the application is running. 2. Start the application. 3. In the application in use state, wait for the time for which the alarm clock was set up. 4. Observe the application behaviour. 5. Verify that the alarm clock notification can be heard or seen.	*Expected result* - When the alarm clock starts ringing, the application must at least respect one of the following: a) Go into pause state, after the user finishes interaction with the alarm clock, the application presents the user with a continue option or is continued automatically from the point it was suspended at b) Give visual or audible notification. - The application must not crash or hang	
Notes - Application should not run while the alarm clock is being set up. - Application developer should use relevant APIs to pause and resume the application. - If the device supports background operation, the test should be repeated with the application running in background. - On S60 terminals, the system may close the application, if there is not enough memory available to handle the alarm clock notification. If this happens an observation should be recorded. - On S40 terminals, when the user presses soft key in order to stop the alarm, the softkey also interacts with the application.	*Exceptions*	
PASS €	FAIL €	PASSED WITH EXCEPTION €

FN19	Influence on Terminal System Features	

Full Description

Application must correctly handle situations where following user input, or some external event (e.g. a phone call), it is switched to the background by the terminal. Upon restart the application must resume its execution correctly. While in the background the application must not emit any audio and all handset functions should remain intact.
While being in the background, the application must either not affect the use of the system features or other applications or, if the application does so, such behaviour must be described in the help file.

Steps to conduct the test	*Expected result*
1. Start the application 2. Familiarize yourself with the help file 3. Switch application to background (this is done in terminal-specific way) while the application is running and in each of the following locations within the application: - During initial loading of the application - Main Menu - In the process of normal application usage - In the process of loading data from the network (where applicable) - In pause state (where applicable) 4. Try using system features and applications of the terminal using a random selection from the following: - Browser - Phone Call - Ring Tone - Camera 5. Verify that terminal's system features and applications can still be used normally, and where this is not the case, the application's help file describes the situation adequately to the user. Verify also that the application does not emit any audio	- Terminal's system features and applications can be used normally. - After the application is brought back to foreground, it continues to operate normally.

6. Switch the application back to the foreground 7. Verify that the application operates normally by performing these tests in parallel for a total test time of 5 minutes.	
Notes - When performing the test above the application either needs to be switched to background/foreground. The actual method used depends on the functionality of the target terminal (e.g., this can be done by pressing the RED KEY or by closing and opening a clam shell terminal). - S60 devices may close the Java application if there is not enough RAM. If this happens, an observation should be recorded. - The application goes into background in the S60 3rd edition devices by pressing the menu button. Pressing the red key will close the application. - If application execution makes some system features unavailable or affects them otherwise in a noticeable manner, and application help file doesn't describe such situations, the application must fail this test. - The test house will document in the test report all cases where system features were affected by the application, regardless of whether such cases are described in the help file or not.	*Exceptions* - Not required if the target terminal does not support switching application to the background/foreground. - If the application under test by its design is expected to produce audio output whilst in background mode (such as an MP3 player, IM client etc) then this is acceptable so long as the audio is paused during external events as described in FN2, FN3, FN4, FN5, FN6, FN7, FN16 and is able to resume audio correctly.
PASS €	FAIL € PASSED WITH EXCEPTION €

4.7 Connectivity

CO1	Network connectivity not allowed	
Full Description When the application uses network capabilities, it must be able to handle situations where the network connection is not allowed.		
Steps to conduct the test 1. Set the network connectivity from the device settings to "Not allowed" or disable the Internet profile 2. Start the application 3. Start the network access from the application 4. Observe the result	*Expected Result* -When establishing the connection, the application can handle situations where network connectivity is not allowed and tell the user that the connection was not allowed	
Notes -	*Exceptions* -	
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

CO2	Network delays and the loss of connection	
Full Description When the application uses network capabilities, it must be able to handle network delays and any loss of connection.		
Steps to conduct the test 1. Start the application 2. Start the network access from the application 3. Put the phone in a place where there is no connection any more or use an access point where there is no connection to the required server 4. Observe the result		*Expected Result* -The application will work until time out and then give an error message to the user indicating there was an error with the connection
Notes		*Exceptions* -
PASS ☐	FAIL ☐	PASSED WITH EXCEPTION ☐

CO3	Closing the network connection – IP connections	
Full Description When the application uses network capabilities, it must be able to use the connection correctly and correctly close it after using it.		
Steps to conduct the test 1. Start the application 2. Start the network access from the application 3. Use the application to see that it communicates correctly 4. Close the connection by: a) Close the activity from the application b) Exit the application 5. Observe the result	*Expected Result* -The application is able to communicate correctly over the established connection -The application must close the connection after using it -The application must close the connection when exiting	
Notes - In some cases it may take some time from the device to actually close the connection. This time should be considered to be up to 1min only.	*Exceptions* -Applications which constantly require a network connection, such as browsers	
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

CO4	Messaging	
Full Description When the application uses the messaging capability of the device (e.g. SMS, MMS), it must be able to send messages correctly.		
Steps to conduct the test 1. Start the application 2. Use the feature from the application to send messages. 3. Observe the result	*Expected Result* -The messages are sent and received correctly	
Notes -	*Exceptions* -Panasonic X400, X60	
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

CO5	Messaging errors	
Full Description When the application uses the messaging capability of the device (e.g. SMS, MMS), it must be able to take into account error situations, such as device settings and display informative error messages.		
Steps to conduct the test 1. Go to the device settings and set Messaging to "Not allowed" and/or disable the SMS profile and/or MMS profile 2. Start the application 3. Try to send a message from the application 4. Observe the outcome		*Expected Result* -The application must be able to handle the erroneous situation and display an informational error message to the user
Notes The tester should observe the behaviour of the application throughout the testing.		*Exceptions* -Panasonic X400, X60
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

CO6	Bluetooth connections	
Full Description When the application uses Bluetooth connections, it must be able to communicate correctly over Bluetooth and close the connection when exiting.		
Steps to conduct the test 1. Start the application 2. Start the Bluetooth feature of the application 3. Observe the behaviour 4. Stop using the Bluetooth feature 6. Close the connection by: a) Close the activity from the application b) Exit the application	*Expected Result* -The application starts the Bluetooth connection -The Bluetooth connection works as expected -The Bluetooth connection was closed when the application exited.	
Notes -	*Exceptions* -Some applications use the connection continuously, for example a map application using Bluetooth connection to a GPS; for these applications the verification of the Bluetooth connection being closed can be omitted	
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

CO7	Bluetooth errors	
Full Description When the application uses Bluetooth connections, it must be able to handle Bluetooth connection errors.		
Steps to conduct the test 1. Start the application 2. Start the Bluetooth connection 3. Take the other device out of connection reach 4. Observe the results	*Expected Result* -The application must be able to produce understandable error messages and resume without crashing -The application must clearly state that the connection to the other party is lost in the error message	
Notes -	*Exceptions* -	
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

CO8	Push registration	
Full Description Applications using Push Registry must be able to handle this correctly and must be able to Register Push Events (Auto launch events).		
Steps to conduct the test 1. Install the application with static Push Registry Events specified in the "Java Application Descriptor"/Manifest. 2. With the application running dynamically register a Push Registry Event Alarm, SMS, Socket, SIP, Datagram, Auto-start, etc).	*Expected Result* - The application will install with no errors. - The Push Registry Event is registered with no errors or exceptions and the user is prompted with a permissions menu as appropriate (see notes). - The Application gracefully handles situations where the user denies permission for registration.	
Notes - All push registry features used by an application should be entered in the connections section in the Application Characteristics. - Ensure that the correct permissions menu is offered to the user depending on the permission declarations as laid out in JSR118.	*Exceptions*	
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

CO9	Push activation	
Full Description The application must be able to start via the Push Registry on a receipt of a Registered event		
Steps to conduct the test 1. Ensure that the device has power on 2. Ensure the application is not running 3. Initiate a Registered Event for the application using the method supported by the application (Date/Time, SMS, Socket, Datagram, etc.)	*Expected Result* -The application starts at the correct date and time specified by the alarm registration, or on the receipt of the connection event -The user may be prompted based on the settings of the application	
Notes -	*Exceptions* -	
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

CO10	IrDA connections	
Full Description When the application uses IrDA connections, it must be able to communicate correctly over IrDA and close the connection when exiting.		
Steps to conduct the test 1. Start the application 2. Use the IrDA feature of the application 3. Observe the behaviour 4. Close the IrDA connection by: a) Close the activity from the application b) Exit the application	*Expected Result* -The application starts the IrDA connection -The IrDA connection works as expected -The IrDA connection was closed when the application exited.	
Notes -	*Exceptions* -	
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

CO11	IrDA errors	
Full Description When the application uses IrDA connections, it must be able to handle IrDA connection errors.		
Steps to conduct the test 1. Start the application 2. Start the IrDA connection 3. Take the other device out of connection reach 4. Observe the results	*Expected Result* -The application must be able to produce understandable error messages and resume without crashing -The application must clearly state that the connection to the other party is lost in the error message	
Notes -	*Exceptions* -	
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

CO12 | **Contactless Communication** |	
Test Description When the application uses Contactless Communication (JSR-257), it must be able to communicate correctly.	
Steps to conduct the test. 1. Start the application 2. Start the contactless communication feature of the application 3. Observe the behaviour	*Expected Result* -The application starts the connection -The connection works as expected -The application gives a clear notification to the user about the success or failure of the activity using contactless communication.
Notes - Developer to provide any external resources required to test the application, e.g. RFID / NFC / printed code, or other hardware / software.	*Exceptions* The application gives a clear notification to the user about the success or failure of the activity using contactless communication
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐	

CO13	**Contactless Communication errors**
Test Description When the application uses Contactless Communication (JSR-257), it must be able to handle communication errors correctly.	
Steps to conduct the test. 1. Start the application 2. Start the contactless communication feature of the application 3. Use the communication so that the application does not receive feedback from the contactless communication device -For example with Near Field Communication (NFC) do not allow enough time for the device to read the NFC tag. 4. Observe the behaviour	*Expected Result* -The application must be able to produce understandable error messages and resume without crashing -The application must clearly state that there is an error in the connection.
Notes - Developer to provide any external resources required to test the application, e.g. RFID / NFC / printed code, or other hardware / software.	*Exceptions* The required error messages may also be produced by the device which is being contacted.
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐	

4.8 Personal Information Management

PI1	Accessing personal information	
Full Description The application must be able to handle the cases where the connection to the PIM applications is not allowed.		
Steps to conduct the test 1. Go to the device settings and set the read / write user data to "Not allowed" 2. Start the application 3. Use the application to read user data 4. Observe the result 5. Use the application to write user data 6. Observe the result		*Expected Result* -The application will show an informative error message to the user for both reading and writing user data -The error message must state that the read or write operation was not possible
Notes -		*Exceptions* -
PASS ☐	FAIL ☐	PASSED WITH EXCEPTION ☐

PI2	Using personal information	
Full Description The application must be able to connect to the PIM applications correctly and not destroy any content without the explicit permission of the user.		
Steps to conduct the test 1. Insert user's personal data in the device (for example calendar, contact, to-do, images, text files, documents, etc.) 2. Start the application 3. Use the user data read and write features of the application for 15min. 4. Observe the results		*Expected Result* -The application does not destroy data without the explicit agreement of the user -The application reads and writes data correctly
Notes -		*Exceptions* -
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

4.9 Security

SE1	Application Declaration	
Full Description Check the application declarations in the “Application Characteristics”		
Steps to conduct the test 1. Check the declaration statement on "Application Characteristics".	*Expected Result* Encryption – It has been declared that the application uses encryption when communicating sensitive data Security prompts - It has been declared that the application does not override system or virtual machine security prompts and notifications nor trick the user by displaying misleading information just before a security prompt is shown to the user. Also, during the other tests performed to this application during testing the tester has not seen clear indications that any security prompts and notifications have been overridden. Security warnings – It has been declared that the application does not simulate security warnings to mislead the user. Key presses – It has been declared that the application does not simulate key presses to mislead the user Running environment – It has been declared that the application runs in the sandbox environment and does not exploit any malicious ways of exiting the sandbox.	
Notes -	*Exceptions* -	
PASS ☐	FAIL ☐	PASSED WITH EXCEPTION ☐

SE2	Passwords	
Full Description Passwords or other sensitive data are not stored in the device and the passwords are not echoed when inputted to the application.		
Steps to conduct the test 1. Start the application 2. Go to the section where passwords or other sensitive data (such as credit card details) is inputted 3. Input some sensitive data. Observe how the data are displayed on the screen 4. Exit the application 5. Start the application 6. Go to the place where sensitive data was inserted 7. See if the data is still there	*Expected Result* -Entering password will not display the password in clear text (for multi tap entry a delay should be allowed) -Passwords, credit card details, or other sensitive data is not stored at the fields where they were previously entered	
Notes - With passwords the desired approach is that the application shows which character the user selected and then changes that to an asterisk (*)	*Exceptions* - If the user is explicitly asked for permission, a password can be stored to the device memory.	
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

SE3	JAD/JAR manifest information accuracy

Test Description
The JAD file and JAR manifest file MIDlet-Permissions attributes must contain exactly the same information or the application will not install after it has being signed.

Steps to conduct the test.	*Expected Result*
1. Open the JAD file - this can be done using a text editor like Notepad or WordPad 2. Open the JAR manifest file - Open the JAR file using an archive program like WinZip to display the contents - Open the Manifest.mf file using the archive program's internal viewer, or a text editor which respects the line breaks, like WordPad 3. Compare the MIDlet-Permission and MIDlet-Permission-Opt attributes in the files with each other and with the Declarations section of the application document	- The information in the MIDlet-Permission fields is as declared in Declarations section of application documentation - The MIDlet-Permission fields in both of the files: ▪ are the same in both files ▪ contain exactly the same information ▪ are expressed in accordance with the Java Manifest specification with regard to line length, multi-line division and formatting
Notes A full list of permissions to be used by the MIDlet under test is made in the declaration section of this test criteria document	*Exceptions*

PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐

5 Simple Application Tests

For many applications, particularly games, testing using the full criteria is inappropriate. These applications do not use any of the communication features of the device and hence do not require any midlet permissions statements in the manifest and JAD file.

If these applications were to be put through the full test plan then many of the individual tests would be not applicable. This would add an unnecessary overhead to testing with no benefit to the customer.

The following tests should be used where the developer declares their application as being appropriate for the simple application test. They include 2 new tests, PS1, which is the check for permission statements in the JAD and manifest to confirm it is a simple application and can be tested as such and SA1 which relates to the exceptions below.

There are 3 types of applications where an exception can be made to the no permissions statements.

- A demo application or game that connects to a wapsite to upgrade to the full version.
- An application that has a connection to provide in-application advertising.
- An application that simply launches a browser session (formerly known as a stub application.

For these applications a further test needs to be completed to ensure the required connection is made.

Reduced testing principles do not apply for simple applications.

PS1	Permission Statements	
Test Description The application should not ask for any permissions.		
Steps to conduct the test 1. Open the JAD and the manifest 2. Observe that there are no permission statements	*Expected Result* -There are no MIDlet-Permissions statements in the JAD and manifest	
Notes Any application that merits an exception should then be subjected to test SA1	*Exceptions* 1. Application is a demo which connects to a site accessed by a browser to download full version 2. Application connects to a server to provide in-application advertising 3. Application has no other purpose than to launch a browser session	
PASS ☐	FAIL ☐	PASSED WITH EXCEPTION ☐

AC1	Application flow	
Test Description The information in the flow of the application must be provided according to the application specification.		
Steps to conduct the test 1. Open the flow of the application document 2. Read it through and observe that it has all the required bits of information.		*Expected Result* -Each section is named with a descriptive name. -Each section has a description of the functions it holds. -The flow on the chart displays how to enter to each section, how to get out from the section and where can the user enter from each section. -Possible password usage is also indicated in a section.
Notes		*Exceptions*
PASS ☐	FAIL ☐	PASSED WITH EXCEPTION ☐

AC2	Application information	
Test Description The application characteristics document must be properly filled.		
Steps to conduct the test 1. Open the application characteristics document 2. Read it through and observe that it has all the required bits of information.	*Expected Result* -The document is available -All the sections of the document has been filled in and questions are answered	
Notes	*Exceptions*	
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

ST1	Application stability	
Full Description The application must not crash or freeze at any time while running on the device.		
Steps to conduct the test 1. Observe the application behaviour during the testing	*Expected Result* -The application must not stop the user experience unexpectedly without any user input.	
Notes -During any time of the testing observe the application behaviour -The report must indicate if the error can be reproduced or not	*Exceptions* -	
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

AL1	**Application Installation**	
Test Description The application must install via OTA		
Steps to conduct the test 1. Open the browser application of the device 2. Type the URL of the application JAD file 3. Connect to the typed URL 4. Accept the installation of the application		*Expected Result* -The application installs to the device -The icon for the application can be found from the device
Notes If errors occur at installation time, corresponding messages must be reported by the test house in the test report.		*Exceptions* If the device does not display the icon, then the user must be able to start the application using other means.
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

AL2	Application start up
Test Description Application must start properly in 25s.	
Steps to conduct the test 1. Find the application icon and select it 2. "Press a button" on the device to launch the application 3. Observe the application launch In the timeline defined 4. The application should have displayed a main menu or interactive menu such as language selection screen where the use of the application can be started 5. Use some of the application features	*Expected Result* -The application starts in 25s or less, this is the time between steps 2 and 4 -No error messages are displayed -The application appears to function properly
Notes If launch time errors occur, corresponding messages must be reported by the test house in the test report. This test does not take into consideration the different screens displayed between the "button press" and the display of the main menu of the application. For example branded splash screen.	*Exceptions*
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐	

UI1	Graphic clarity	
Full Description All graphics and animations displayed must be readable and clear to the user.		
Steps to conduct the test 1. Launch application in target language 2. Check graphics appearing in f) Splash/Title/Logo/Loading Screen g) Main Menu and all its subsidiary menus h) Help/Instructions Screen(s) i) About screen j) Application Pause Menu and all its subsidiary menus (if present) 3. Repeat steps 1 and 2 for each language version of the game		*Expected Result* -The application must utilise the full screen size available to them, applicable to the target device. - If device's screen orientation can be changed during application execution (e.g. from portrait to landscape mode) the application must adapt its appearance accordingly, so that the requirement above is still met - There should be no event in the defined areas of the application that would prevent the user from understanding the functionality of the application. For example: a graphical display issue including but not necessarily limiting to the following: overlapping graphics, colour conflict, images truncated and/or displayed incorrectly
Notes -The test house will perform the test as specified above. -The developer must ensure that this requirement is fulfilled throughout the application. -Definition of full screen may vary from device manufacturer to manufacturer. For example, the status bar at the top of the screen may remain during full screen mode display. - This test should be run in Portrait mode for all devices. For devices which support Landscape mode, Steps 1 and 2 should be run a second time in this mode.		*Exceptions* - Step 2(a) is omitted where the application does not have this screen.
PASS ☐	FAIL ☐	PASSED WITH EXCEPTION ☐

UI2	UI consistency
Full Description The user interface of the application must be consistent throughout the application	
Steps to conduct the test 1. Start the application 2. Use the application in the following areas: f) Splash/Title/Logo/Loading Screen g) Main Menu and all its subsidiary menus h) Help/Instructions Screen(s) i) About screen j) Application Pause Menu and all its subsidiary menus (if present) 3. Observe the consistency of: h) Common series of actions i) Action sequences j) Terms k) Layouts l) Soft key definitions m) Use of vibration n) Sounds	*Expected Result* -The actions are sequenced in the same way throughout the application -The application uses the same terms for the same things throughout the application -The soft key functionality is the same throughout the application (for example "Back" is always set for the right soft key) -The vibration is used for similar cases -The same sound is not used for different purposes -Two commands with different title must not execute the same action (for example close and exit both close the application) -Two different actions must not be named with a same title (for example exit must be used to exit the application to the devices and not to exit the application to the Main Menu, back could be used instead) -There are no menu orphans -The menu items open the functionality or option which is specified in the menu (for example selecting settings will open settings and not help)
Notes - Observe the consistency of the application through the testing -The test house will perform the test as specified above. -The developer must ensure that this requirement is fulfilled throughout the application.	*Exceptions*
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐	

LO1	Localisation boot test	
Full Description Text present in the localised version of the application must be translated in the targeted language.		
Steps to conduct the test 1. Launch application in target language 2. Check text appearing in c) Splash/Title/Logo/Loading Screen d) Main Menu display 3. Exit the application 4. Repeat steps 1, 2 and 3 for each Language version of the application		*Expected Result* -The Main Menu is displayed -Text is displayed in the target language only
Notes -This test is not checking for spelling errors or bad translation but rather to confirm that the appropriate language is displayed for each language version of the application (i.e. only French translations appear in the French version of the application). -Test houses will only check that the targeted language is appearing from loading the application to the display of the main menu. -An error will be reported if an entire screen is displayed in a different language than the targeted one.		*Exceptions*
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

LO2	Translation accuracy	
Full Description In every language of the application, all text must be translated with respect to the application and the targeted language.		
Steps to conduct the test 1. Launch application in target language 2. Check text appearing in f) Splash/Title/Logo/Loading Screen g) Main Menu and all its subsidiary menus h) Help/Instructions Screen(s) i) About screen j) Application Pause Menu and all its subsidiary menus (if present)		*Expected Result* - No incorrect translations as defined in the notes must be present in the defined areas.
Notes -The test house will perform the test as specified above. -The developer must ensure that this requirement is fulfilled throughout the application -An error will be reported only if an entire sentence is not translated in the targeted language -A single word which is not translated properly will not result in an error		*Exceptions* -
PASS ☐	FAIL ☐	PASSED WITH EXCEPTION ☐

LO3	Spelling errors	

Full Description
The application must be free of spelling errors.
A spelling error is defined as a strict mis-spelling of a word (no grammar or punctuation rules will be applied). Missing diacrits and accents (e.g. acutes, cedillas, umlauts etc) will not be reported as spelling errors.

Steps to conduct the test	*Expected Result*
1. Launch application in target language 2. Check text appearing in f) Splash/Title/Logo/Loading Screen g) Main Menu and all its subsidiary menus h) Help/Instructions Screen(s) i) About screen j) Application Pause Menu and all its subsidiary menus (if present)	- No spelling errors must be present in the defined areas.
Notes -The test house will perform the test as specified above. -The developer must ensure that this requirement is fulfilled throughout the application	*Exceptions* -For English language, US way of spelling is acceptable.

PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐

LO4	Technical text errors	
Full Description The text in the application must be clear and readable. The application must be free of technical text display issues such as: Text cut off / Text overlapping.		
Steps to conduct the test 1. Launch application in target language 2. Check text appearing in f) Splash/Title/Logo/Loading Screen g) Main Menu and all its subsidiary menus h) Help/Instructions Screen(s) i) About screen j) Application Pause Menu and all its subsidiary menus (if present)		*Expected Result* - All text located in the specified areas is displayed without technical display issues that prevent legibility.
Notes -The test house will perform the test as specified above. -The developer must ensure that this requirement is fulfilled throughout the application -All text in each target language is displayed without corruption, distortion or other display problems. Examples may include: g) Menu item text labels incorrectly aligned with cursor h) Button text label over-running the button area i) Text over-running other bounded text display areas (e.g. speech bubbles, user interface elements etc) j) Text not wrapping at the edge of the screen resulting in words being cut off k) Multiple pieces of text overlapping each other l) Text must not be cut horizontally 		*Exceptions* -
PASS ☐	FAIL ☐	PASSED WITH EXCEPTION ☐

FN2	External incoming communication – voice call	
Full Description The application can handle incoming communications		
Steps to conduct the test 1. Start the application 2. In the following locations of the application: d) Main menu e) Application in use f) In use pause state (if applicable) 3. Make an incoming call to the device 4. Observe the application behaviour	*Expected Result* -When the incoming communication enters the device the application goes into pause state, after the user exits the communication, the application presents the user with a continue option or is continued automatically from the point it was suspended at	
Notes -The developer is encouraged to use the available APIs the pause and continue methods. -S60 devices may close the Java application if there is not enough RAM.	*Exceptions* -Not required for applications where the immediate user intervention is not needed (for example timer application)	
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

FN3	External incoming communication – SMS	
Full Description The application can handle incoming communications		
Steps to conduct the test 1. Start the application 2. In the following locations of the application: d) Main menu e) Application in use f) In use pause state (if applicable) 3. Send a SMS to the device 4. Observe the application behaviour	*Expected Result* -When the incoming communication enters the device the application must at least respect one of the following: a) Go into pause state, after the user exits the communication, the application presents the user with a continue option or is continued automatically from the point it was suspended at b) Give a visual or audible notification -The application must not crash or hang.	
Notes -The developer is encouraged to use the available APIs the pause and continue methods. -S60 devices may close the Java application if there is not enough RAM.	*Exceptions* -Not required for applications where the immediate user intervention is not needed (for example timer application) -Panasonic X400, X60	
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

FN11	Main menu requirements
Full Description The main functionalities of Exit, Help and About are easily available through the main menu	
Steps to conduct the test 1. Start the application 2. Open the main menu 3. Check that Exit, Help and About are available 4. Check that Help displays the help information 5. Check that the help includes: aims of the application, use of keys (for example for games) and the descriptions of the application features. 6. Check that Exit menu item exits the application 7. Check the information on the About and compare it to the JAD and JAR's manifest file information	*Expected Result* -The main menu includes Exit, About and Help -Exit, About and Help both work as expected, without any error messages -About must include: d) Developer name e) Application name f) The exact version number of the application -It's consistent with the information found in the JAD file and JAR's manifest as follows: d) Developer name: MIDlet-Vendor e) Application name: MIDlet-Name f) The version number: MIDlet-Version
Notes	*Exceptions* -The About can be included in to the Help menu
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐	

FN13	The speed of application in use	
Full Description The application works in the device it was targeted for. It is usable on the device. -The speed of the application is acceptable to the purpose of the application and must not alter the user experience by being uncontrollable.		
Steps to conduct the test 1. Use the application 2. Observe how fast the application is to use and if it is, too slow or too fast in it's operation 3. If the application behaviour is incontrollable due to it's speed please report such findings	*Expected Result* -The application is usable on the device -The speed of the application is good enough for the application usage, i.e. the application frame rate must remain adequate and must not compromise the application usage and therefore prevent the user to progress normally	
Notes -The developer / publisher is expected to test the entire application. For example play through the entire game. The test house will only conduct representative sample test of the application in different areas if possible, for a 15 minutes period only.	*Exceptions* -	
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

FN13 - TEST GUIDANCE

1)Goal of the criteria:

This criteria ensure that the application in use must work at an acceptable speed on the device for the end user. The user must be able to progress in the application. If he can't progress within the application due to it's speed, then this criteria will fail certification

2)Why this criteria - background.

It has been designed to answer some issues created by the porting system often used by content developers. As an example, if an application is ported from the master device to a secondary device, the application created for the secondary device following porting must not suffer from a lack of speed or an inappropriate acceleration when in use. The end user must have the same experience whether he uses the application on a master device or a secondary device.

3) How to test it. Tangible.

Each test house must concentrate the test on a specific tangible which is the **control**. In order to limit irrelevant bugs of "I feel like this is too slow/too quick" type. Every test must be defined in terms of user being in control of the application and therefore limit random testing fail.

At the test houses each tester must report when:

- The application is too slow
- The user can not control it in a timely manner due to a slow performance.

- The application does not allow the user to perform an action or to achieve a goal in the application as a result of slow speed and therefore prevent normal progression of the user.

Example: if in a main menu, the user can not choose an option as a result of a slow progression of the menu speed it goes against FN13 and therefore prevent control from user.

- The application is too quick
- The user can not control the application to achieve the goal due to an irrelevant high speed which prevents control.

Example: if within a game such as a car race like application, the user can not control the direction of his car because the default car speed is that quick, that it becomes difficult to finish the first lap of the track and qualify for the second race. Then clearly the application speed is too high, and prevents the user to finish the goal of the game.

4) Proofreading of FN1 3
The criteria requires really strict proofreading methods at each test house for the FN13 specific criteria to ensure validity of the issue, we therefore ask the following:

- When a FN13 check fails is reported by one tester, the issue should be looked at by a second tester with an agree/disagree assessment.
- The issue is then assessed by a “test coordinator” type person and if the criteria still receive a fail status assessment, a recommendation of fail should be sent by the test coordinator to a “test supervisor”.
- The test house supervisor will assess the issue and grant authorisation to fail the FN13 or not.

Only then the issue can be included in the report as failed.

This process should be clearly stated in the bug report with names of the 2 testers/test coordinator/test supervisor.

5) Highlight
Finally to resume the FN13 criteria, this requirement should make sure that the end user can use the application in a normal manner. It has not been designed for the sake of reporting an issue; it has been designed to prevent developer to deliver inappropriate application on some devices that will go against the user experience.

FN15	Unexpected user behaviour	
Full Description The application must be able to handle unexpected user behaviour, for example erroneous actions and multiple key presses.		
Steps to conduct the test 1. Start the application 2. Press 2-5 different handset buttons simultaneously when: e) The application is loading f) On the main menu g) The application is in use h) The application is in pause state		*Expected Result* -The application does not crash or freeze, but functions as expected.
Notes -If you press the handset override button ('end' key, red key, etc. depending on the manufacturer) the application will exit and that is not the purpose of this test -Please note that the Menu key in Series 60 devices will take the application to background -Some applications may not have pause		*Exceptions* -
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

SA1	Simple application – Connection exception	
Full Description For applications which merit an exception in test PS1, the connection part of the application must be tested to ensure it connects to the correct service.		
Steps to conduct the test 1. Start the application 2. Select the option to cause a connection 3. Check the connection is successful	*Expected Result* -The application connects to the required service as appropriate. For demo applications, check the upgrade process works. For applications with in-application advertising, check an advertisement is delivered and displayed. For applications that only launch a browser, check that the browser launches and connects.	
Notes	*Exceptions*	
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

6 Retesting

An application that has failed a test round can be submitted for retesting. During retesting only the previous failures are tested. An application can also be submitted for retesting if only MANIFEST file changes are done.

6.1 Retesting an Application When It Has Failed the Previous Test Round

Assumption: The application has been tested once but did not pass testing on the first testing round. The tests executed on the next test round are the failed tests executed on the first round and the tests listed here: RE1 and RE2.

RE1	**Errors from the previous test round**	**R**
Full Description The errors in the previous test round are fixed		
Steps to conduct the test 1. Start the application 2. Use the test report from the previous test round to view which errors the application had	*Expected Result* The errors from the previous test round were fixed	
Notes	*Exceptions*	
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

RE2	Retest pre requisite	R
Full Description Application identification must not be the same as the one provided during the previous test round.		
Steps to conduct the test 1. Start the application 2. Open the main menu 3. Check that About is available 4. About should include: vendor name, application name, the exact version number of the application and it should be consistent with the information found in the JAD file and JAR's manifest	*Expected Result* The application identification has changed since the previous version. For example the version number is greater.	
Notes	*Exceptions*	
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

6.2 Retesting An Application With Manifest File Changes

Assumption: An application has been tested against the criteria and it has passed successfully. The new version of the application is the same application, which only has the information in the application's manifest changed. There is no new added functionality.

RE2	**Retest pre requisite**	**R**
Full Description Application identification must not be the same as the one provided during the previous test round.		
Steps to conduct the test 1. Start the application 2. Open the main menu 3. Check that About is available 4. About should include: vendor name, Application name, the exact version number of the application and it's consistent with the information found in the JAD file and JAR's manifest	*Expected Result* -The application identification has changed since the previous version. For example the version number is greater.	
Notes	*Exceptions*	
PASS ☐	FAIL ☐	PASSED WITH EXCEPTION ☐

RE3	Sanity Check	R
Full Description Check that the changes to the application are really what the developer claims		
Steps to conduct the test 1. Open the JAR of the accepted application 2. Open the JAR of the application in testing 3. Compare the JAR content 4. Check what has changed in the manifest file	*Expected Result* -The changes are what the developer claims, the dates, file sizes and path is the same as in the original file.	
Notes -	*Exceptions* -	
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

AL1	Application installation	
Test Description The application must install via OTA		
Steps to conduct the test 1. Open the browser application of the device 2. Type the URL of the application JAD file 3. Connect to the typed URL 4. Accept the installation of the application		*Expected Result* -The application installs to the device -The icon for the application can be found from the device
Notes If errors occur at installation time, corresponding messages must be reported by the test house in the test report.		*Exceptions* If the device does not display the icon, then the user must be able to start the application using other means.
PASS ☐ FAIL ☐ PASSED WITH EXCEPTION ☐		

AL2	Application start up	
Test Description Application must start properly in 25s.		
Steps to conduct the test 1. Find the application icon and select it 2. "Press a button" at the device to launch the application 3. Examine the application launch 4. The application should now display a main menu or similar status where the use of the application can be started 5. Use some of the application features		*Expected Result* -The application starts in 25s or less, this is the time between steps 2 and 4 -No error messages are displayed -The application appears to function properly
Notes If launch time errors occur, corresponding messages must be reported by the test house in the test report. This test does not take into consideration the different screens displayed between the "button press" and the start of the application it self.		*Exceptions*
PASS ☐	FAIL ☐	PASSED WITH EXCEPTION ☐

7 Revision History

Version	Date	Name	Reason
V1.0	24 November 2003	All	Version 1.0
V1.1	5 February 2004	All	Modifications made to testing workflow.
V1.2	25 February 2004	All	Removed Test Process Chapter Reformatted Document
V1.3	20 May 2004	All	Modified: UI4, UI5, UI10, FN2, SE1 Added: FN0 Deleted: NT1 Moved: UI-118-1,2,3 to SE-118-1,2,3
V1.4	29 September 2004	All	Modified: UI19, LO1, LO2, UI3 and FN2.
V2.0	March 2005	All	Rewrote most of the criteria to help the testing and modified the pretesting. Please see a separate document about the changes in detail.
V.2.01	September 2005	All	AL2: 15s start up time changed to 25s.
V.2.1	May 2006	All	-FN2, FN3, FN4, FN5 and FN6: Note added about S60 system may close the Java application if the system is running low on recourses. -FN13: More information about the contents of the criteria item -Wording in 3.5 section 2 single language applications: "...the entire criteria will be performed." New exceptions: -FN11: About can be part of the help -C04, C05, FN3, FN4, FN5, FN6 & SE2 -FN11: In the expected result: "About should include" change to "About must include".
V2.2 BETA	June 2007	All	**- Section 1.3** Definitions, Acronyms and Abbreviations updated. **- Section 2.1** Categories Section Updated **- Section 3.1 (F - 5, 6)** Pre-requisite for Testing: Application Characteristics. **- Section 3.2** Name change 'Application Behaviour During Test'. ST2 Observation Test Added **- Section 3.4** UI1 Updated. **- Section 3.6**

			FN16 Added. FN17 Added. FN18 Added. FN19 Added. **- Section 3.7** CO12 Added. CO13 Added. CO14 Added. **- Section 3.9** SE7 Added.
V2.2 FINAL	November 2007	All	**- Section 2.1** List of APIs removed. **- Section 3.1** Application Characteristics: Connections – section for declaration of Push Registry connections added. **- Section 3.4** Test UI1: Added note to omit graphics check on splash / title / logo / loading screen if such screen not present. Test to be repeated in Landscape mode for devices that support this. **- Section 3.5** Test LO1: Changed references to “game” to read “application”. **- Section 3.6** Test FN16: Added requirement to record an observation if application is closed because of lack of available memory. Test FN17: Test to be restricted to app’s main activity screen. Test FN18: Test to be repeated for background operation when this is supported by the device. Added requirement to record an observation if application is closed because of lack of available memory. Added requirement that application should not run while test is being set up. Wording change to improve clarity of test setup. Test to be run in application in use state only. Added note regarding softkey interaction on S40 terminals. *Cont’d over page*

			Test FN19: Added requirement to record an observation if application is closed because of lack of available memory. Test to be restricted to random choice of apps from Browser / Phone Call / Ring Tone / Camera. Tests to be done in parallel so that 5 minute limit represents total test time. Removed allowance for application changing normal use of terminal system features if documented in Help file – this should be covered by a Waiver request. **- Section 3.8** Test CO8: Amended to include functions of Test CO14. Tests CO12 & CO13: Added note that developer provide external data / software / hardware resources required to test, as implementations of this functionality are likely to be highly proprietary during the life of this version of the UTC. Test CO14: Test deleted as test functions have been merged with Test CO8. **- Section 3.9** Test SE7: Procedure added for opening JAD and Manifest files. Specification of attributes changed to make it clearer that the Test only refers to MIDlet-Permissions attributes, not all attributes. **- Section 4** Section 4 et seq: increment section numbers to make room for new Section 4: Stub Application Tests, so Retesting now becomes Section 5. The following tests were added to the new section: ST1 Application Stability AL1 Application Installation AL2 Application Start Up LO1 Localisation Boot Test FN2 External Incoming Communication – voice call FN3 External Incoming Communication – SMS FN7 External Incoming Interruption – Charging SE7 JAD / JAR Manifest Information Accuracy These are imported from the main section of tests but with all reference to menus and interaction removed.

V2.2 UPDATE	December 2007	All	**- Section 3.6** Test FN16: Added exception where available networks do not support video calling used for this test.
V3.0 UPDATE	January 2009	All	**- Section 2.x** New testing options added. **- Section 4.9 Security.** Merged SE1, SE3-SE6 into SE1 SE7 is now SE3 **- SECTION 6.x** Retesting is now only for applications that has previously failed and previous test round or applications which changes only in the Manifest file. Removed: 6.2 Retesting a Tested Application for Alternative Device
V3.01	August 2009	All	ST 3 added.
V3.1	April 2010	All	Section 5.0 - Simple Application testing added. Stub application testing removed.