# Unified Testing Criteria

for **Android** applications

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This is the Unified Testing Criteria (UTC) against which Android applications can be tested.

It follows the same format as the UTC for Java ME applications, and has been compiled by members of the Unified Testing Initiative (UTI).

The UTC will be updated on an ongoing basis as a result of input from the community and changing platform requirements. UTI welcomes input via the UTI blog at www.unifiedtestinginitiative.org/blog

Please note that whereas applications that pass the Java ME UTC can then gain the Java Verified Signature through UTI's Java Verified programme, there is no known testing and validation programme for Android apps. However, if your Android apps pass the relevant tests outlined within this UTC, you can be confident that they will have reached a high quality standard.

The tests should be performed on a device to which a factory reset has been applied prior to the installation of the application to be tested. This will ensure that there is a known base with only pre-installed applications and any errors will be attributable to the application under test.

It is not within the scope of these criteria to be able to test the performance of the application on devices with multiple applications installed.

Test definitions

# 1 Install and Launch

## 1.1 OTA install

| *Test ID*<br>**1.1** | *Test Title*<br>**Lifecycle – OTA install** | |
|---|---|---|
| *Test Description*<br>**The Application must install via OTA.** | | |
| *Required for:*<br>**All applications.** | | |
| *Testing Note*<br>1. If errors occur at installation time, corresponding messages must be reported by the tester in the test report.<br>2. If the device does not display the icon, then the user must be able to start the Application using other means.<br>3. For carriers that will only accept the installation of Applications from Android Market, this test cannot be performed until the Application is in Android Market.<br><br>*Testing Steps*<br>1. Open the browser Application of the device;<br>2. Type the URL of the Application file, or navigate to it graphically;<br>3. Connect to the typed URL / application icon;<br>4. Accept the installation of the Application.<br><br>*RESULT:*<br>1. The Application installs to the device.<br>2. The icon for the Application can be found from the device. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL** | | |

### 1.2 Long Launch Time

| *Test ID*<br>**1.2** | *Test Title*<br>**Lifecycle – Long launch time** | |
|---|---|---|
| *Test Description*<br>**Ensure that the Application notifies the user about a long launch time.** | | |
| *Required for:*<br>**All applications.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>1. Launch the Application.<br>2. Observe launch time.<br><br>*RESULT:*<br>If the Application takes longer than 5 seconds to launch, a progress bar or a message must be displayed to tell the user what is happening. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL** | | |

## 2 Memory Use

### 2.1 Memory during run

| *Test ID*<br>**2.1** | *Test Title*<br>**File System – Memory during run** | |
|---|---|---|
| *Test Description*<br>**Ensure that the Application correctly handles out of memory exceptions during Application execution.** | | |
| *Required for:*<br>**Application which writes to file system.**<br>*Not required for:*<br>**Application which does not write to file system.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>1. Operate the Application in such a way so as to force the Application to write files into the file system.<br>2. Exit the Application. Fill the file system to its capacity or near it.<br>3. Operate the Application - try to explore screens and functions, which access the file system.<br><br>*RESULT:*<br>1. The Application should handle any out of memory exceptions correctly.<br>2. Ensure that there is a warning to the user advising about lack of memory when file is trying to be stored. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)**<br><br>☐ Application does not write to file system. | | |

# 3 Connectivity

## 3.1 Invalid web access setup

| *Test ID*<br>**3.1** | *Test Title*<br>**HTTP – Invalid Network Connection** | |
|---|---|---|
| *Test Description*<br>**Ensure that the Application can handle the network connection being invalid / unusable.** | | |
| *Required for:*<br>**Application using HTTP network connection.**<br>*Not required for:*<br>**Application not using HTTP network connection.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>*1. Create and use an invalid APN entry*<br>- Open Settings<br>- Navigate to Wireless Controls – Mobile Networks – Access Point Names.<br>- Create a new APN with invalid details.<br>- Save this and select it with the radio button on the Access Point Names screen.<br>- Exit the Settings menu<br><br>*2. Launch the Application*<br><br>*3. Initiate an HTTP network connection from the Application.*<br><br>*RESULT:*<br>The Application should handle this situation and all exceptions correctly. | | |

### 3.2 Send/receive data

| *Test ID*<br>**3.2** | *Test Title*<br>**HTTP – Send/receive data** | |
|---|---|---|
| *Test Description*<br>**Ensure that the Application can connect via a valid Web Access session setup and send/receive data via an HTTP network session.** | | |
| *Required for:*<br>**Application using HTTP network connection.**<br>*Not required for:*<br>**Application not using HTTP network connection.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>1. Create a valid Web Access session setup.<br>2. Launch the Application.<br>3. Initiate an HTTP network connection from the Application.<br>4. Conduct some action which ensures a data transfer action via the Network Connection.<br><br>*RESULT:*<br>1. The Application data is properly sent/received over the network (check it for each Application screen or feature that uses data services). | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)**<br><br>☐ Application does not use HTTP network connection. | | |

### 3.3 Network delays and loss of connection

| *Test ID*<br>**3.3** | *Test Title*<br>**Network connectivity - Network delays and the loss of connection** | |
|---|---|---|
| *Test Description*<br>**When the Application uses network capabilities, it must be able to handle network delays and any loss of connection.** | | |
| *Required for:*<br>**Application which uses Network Connection.**<br>*Not required for:*<br>**Application which does not use Network Connection.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>1. Launch the Application.<br>2. Start the network access from the Application.<br>3. Put the phone in a place where there connection will be lost.<br>4. Observe the result.<br><br>*RESULT:*<br>The Application will work until time out and then give an error message to the user indicating there was an error with the connection. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)**<br><br>☐ The Application does not use Network Connection. | | |

### 3.4 Network connectivity – Airplane mode

| *Test ID*<br>**3.4** | *Test Title*<br>**Network connectivity - Airplane mode** | |
|---|---|---|
| *Test Description*<br>**When the Application uses network capabilities, it must be able to handle the device being in Airplane mode** | | |
| *Required for:*<br>**Application which uses Network Connection.**<br>*Not required for:*<br>**Application which does not use Network Connection.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>1. Set the device to Airplane mode<br>2. Start the Application.<br>3. Observe the result.<br><br>*RESULT:*<br>The Application will give a meaningful error message to indicate that the device is in Airplane mode and the application cannot run successfully. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)**<br><br>☐ The Application does not use Network Connection. | | |

# 4 Event Handling

## 4.1 Messaging auto start

| *Test ID*<br>**4.1** | *Test Title*<br>**Messaging – Auto start and process** | |
|---|---|---|
| *Test Description*<br>**Ensure that the Application starts correctly on receipt of Application specific SMS** | | |
| *Required for:*<br>**Application which is started by Application-specific SMS.**<br>*Not required for:*<br>**Application which is not started by Application-specific SMS.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>1. Ensure that the Application is not running.<br>2. Send an SMS message which meets the Application specification to the test handset on the correct port number.<br><br>*RESULT:*<br>1. The Application should launch correctly.<br>2. The Application should process the incoming message correctly. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)**<br><br>☐ The Application does not use Application-specific SMS to start. | | |

### 4.2 Message queuing

| *Test ID*<br>**4.2** | *Test Title*<br>**Messaging – Message queuing** | |
|---|---|---|
| *Test Description*<br>**Ensure that the Application Queues Application-specific SMS messages for processing.** | | |
| *Required for:*<br>**Application which uses Application-specific SMS messages.**<br>*Not required for:*<br>**Application which does not use Application-specific SMS messages.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>Repeat test **Messaging – Auto start and process** several times in quick succession.<br><br>*RESULT:*<br>The Application should queue the messages and then correctly process the queued messages. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)**<br><br>☐ The Application does not use Application-specific SMS messages. | | |

### 4.3 Timed event expiry

| *Test ID*<br>**4.3** | *Test Title*<br>**Timed Event – Expiry during Application run** | |
|---|---|---|
| *Test Description*<br>**Ensure that the Application behaves correctly on expiry of a timed event while the Application is running.** | | |
| *Required for:*<br>**Application which uses timed events.**<br>*Not required for:*<br>**Application which does not use timed events.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>1.Set a timed event in the Application for a specific "future" time<br>2. Keep the Application in an active state.<br>3. Allow the "future" time to pass.<br><br>*RESULT:*<br>Ensure that Application reacts correctly once the designated time has expired. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)**<br><br>☐ The Application does not use timed events. | | |

### 4.4 Timed event expiry during suspend

| *Test ID*<br>**4.4** | *Test Title*<br>**Timed Event – Expiry during Application suspend** | |
|---|---|---|
| *Test Description*<br>**Ensure that the Application resumes correctly from a suspended state on expiry of a timed event.** | | |
| *Required for:*<br>**Application which uses timed events.**<br>*Not required for:*<br>**Application which does not use timed events.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>1. Set a timed event in the Application for a specific “future” time<br>2. Suspend the Application<br>3. Allow the “future” time to pass.<br><br>*RESULT:*<br>Ensure that the application resumes correctly once the designated time has expired, and then ensure that the Application behaves correctly after being resumed. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)**<br><br>☐ The Application does not use timed events. | | |

### 4.5 Timed event expiry during application exit

| *Test ID*<br>**4.5** | *Test Title*<br>**Timed Event – Expiry during Application exit** | |
|---|---|---|
| *Test Description*<br>**Ensure that the Application starts correctly from an exited state on expiry of a timed event.** | | |
| *Required for:*<br>**Application which uses timed events.**<br>*Not required for:*<br>**Application which does not use timed events.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>1. Set a timed event in the Application for a specific time<br>2. Exit the Application<br><br>*RESULT:*<br>1. Application starts, or user is presented with a start option once the designated time has expired.<br>2. Application behaves correctly when started. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)**<br><br>☐ The Application does not use timed events. | | |

# 5 Messaging & calls

## 5.1 Send

| *Test ID*<br>**5.1** | *Test Title*<br>**Message – Send** | |
|---|---|---|
| *Test Description*<br>**Ensure that the Application can send messages successfully.** | | |
| *Required for:*<br>**Application which sends SMS or MMS messages as part of its functions.**<br>*Not required for:*<br>**Application which does not send SMS or MMS messages as part of its functions.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>1. Launch Application.<br>2. Send a message from the Application to another handset – if both SMS and MMS are supported, test both formats.<br><br>*RESULT:*<br>1. Notification of new message is given where enabled on the receiving handset.<br>2. Message is in the correct format, and for MMS contains the correct payload. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)**<br><br>☐ Application does not send messages as part of its functions. | | |

### 5.2 Receive

| *Test ID*<br>**5.2** | *Test Title*<br>**Message – Receive** | |
|---|---|---|
| *Test Description*<br>**Ensure that the Application can receive messages successfully.** | | |
| *Required for:*<br>**Application which receives SMS or MMS messages as part of its functions.**<br>*Not required for:*<br>**Application which does not receive SMS or MMS messages as part of its functions.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>1. Launch the Application (with sound on).<br>2. Compose message at another phone and send it to the test handset – if the application supports both SMS and MMS, test both formats.<br><br>*RESULT:*<br>1. Notification of new message is given where enabled on the receiving handset.<br>2. Message is in the correct format, and for MMS contains the correct payload. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)**<br><br>☐ Application does not receive messages as part of its functions. | | |

### 5.3 Incoming call

| *Test ID*<br>**5.3** | *Test Title*<br>**Telephone call – incoming while application in use** | |
|---|---|---|
| *Test Description*<br>**If the user accepts an incoming phone call while the Application is running, it should be possible to resume from the same point in the Application at the end of the call, or a logical re-starting point.** | | |
| *Required for:*<br>**All applications.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>1. While Application is running, make an incoming call to the test handset.<br>2. Accept the incoming call.<br>3. End the incoming call.<br>4. Return to the Application.<br><br>*RESULT:*<br>1. The incoming call dialog is shown.<br>2. After the call is taken and ended, the Application should resume to either the point of interruption, or a point which neither inconveniences the user nor causes data loss. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL** | | |

# 6 External Influence

## 6.1 Memory card insertion

| *Test ID*<br>**6.1** | *Test Title*<br>**Memory Card - Insertion** | |
|---|---|---|
| *Test Description*<br>**Ensure that the Application works correctly following a memory card insertion action when the Application is suspended and resumed.** | | |
| *Required for:*<br>**All applications, on device which supports removable memory cards.**<br>*Not Required for:*<br>**Device which does not support removable memory cards.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>1. Launch the Application.<br>2. Suspend Application<br>3. Insert the memory card into the phone, and mount the card.<br>4. Fill the card to its capacity<br>5. Unmount the memory card.<br>6. Resume and operate the Application<br><br>*RESULT:*<br>The Application continues to operate as designed based on the Application specification and is not affected by the memory card insertion or mounting/unmounting. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)**<br><br>☐ **Device does not support removable memory cards.** | | |

### 6.2 Memory card insertion and removal

| *Test ID*<br>**6.2** | *Test Title*<br>**Memory Card – Insertion and removal** | |
|---|---|---|
| *Test Description*<br>**Ensure that the Application works correctly during a memory card insertion and removal.** | | |
| *Required for:*<br>**All applications, on device which supports removable memory cards.**<br>*Not Required for:*<br>**Device which does not support removable memory cards.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>1. Launch the Application.<br>2. Insert and remove the memory card.<br>3. Verify that Application works correctly.<br><br>*RESULT:*<br>1. The Application should work correctly following memory card insertion.<br>2. The Application should work correctly with memory card removed. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)**<br><br>☐ **Device does not support removable memory cards.** | | |

### 6.3 Memory card screen behaviour

| *Test ID*<br>**6.3** | *Test Title*<br>**Memory Card – screen behaviour** | |
|---|---|---|
| *Test Description*<br>**Ensure that the Application with memory card functional screens works correctly with memory card inserted and removed.** | | |
| *Required for:*<br>**Application which uses memory card.**<br>*Not Required for:*<br>**1. Device which does not support removable memory cards;**<br>**2. Application which does not use memory card, regardless of device support.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>1. Launch the Application.<br>2. Navigate to screen where Application works with memory card.<br>3. Insert the memory card.<br>4. Verify that Application works correctly.<br>5. Remove the memory card.<br>6. Verify that Application works correctly.<br><br>*RESULT:*<br>1. The Application should work correctly following memory card insertion.<br>2. The Application should work correctly following memory card removal. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)**<br><br>☐ **Device does not support removable memory cards.**<br><br>☐ **Application does not use memory card.** | | |

# 7 User Interface

## 7.1 Readability

| *Test ID*<br>**7.1** | *Test Title*<br>**Readability** | |
|---|---|---|
| *Test Description*<br>**Ensure that the application content is readable.** | | |
| *Required for:*<br>**Applications on all devices with user display.**<br>*Not Required for:*<br>**Devices without user display.** | | |
| *Testing Note*<br>An exception to the requirement for naked-eye legibility may be made where the applications allows a high level graphical view of an item (eg map or web page) and the device zoon facility is used to make areas legible, providing that usability is not impaired by any limiting of the visible areas when zoomed sufficiently to be legible.<br><br>*Testing Steps*<br>All screen content must be clear (e.g. screen not crowded with content) and readable to the naked eye regardless of information displayed, or choice of font, colour scheme etc.<br><br>*RESULT:*<br>The application content should be readable. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)**<br><br>☐ **Device does not have user display** | | |

### 7.2 Read time

| *Test ID*<br>**7.2** | *Test Title*<br>**UI – Read time** | |
|---|---|---|
| *Test Description*<br>**Comfortable time for content reading.** | | |
| *Required for:*<br>**All applications.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>Use the application, moving between screens.<br><br>*RESULT:*<br>Each screen must be visible for the time necessary to comfortably read all its information. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL** | | |

### 7.3 Screen repainting

| *Test ID*<br>**7.3** | *Test Title*<br>**UI – Screen repainting** | |
|---|---|---|
| *Test Description*<br>**Correct screen repainting.** | | |
| *Required for:*<br>**All applications.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>Use the application, moving between screens.<br><br>*RESULT:*<br>1. The Application screens must be correctly repainted, including cases when edit boxes and dialog boxes are dismissed.<br>2. There must be no blinking of moving objects and background. If the Application objects overlap they must still render correctly. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL** | | |

### 7.4 Consistency

| *Test ID*<br>**7.4** | *Test Title*<br>**UI - Consistency** | |
|---|---|---|
| *Test Description*<br>**UI consistency.** | | |
| *Required for:*<br>**All applications.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>Use the application, moving between screens.<br><br>*RESULT:*<br>The Application UI should be consistent and understandable throughout, e.g. common series of actions, action sequences, terms, layouts, soft button definitions and sounds that are clear and understandable | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL** | | |

### 7.5 Key layout ease of use

| *Test ID*<br>**7.5** | *Test Title*<br>**UI – Key layout ease of use** | |
|---|---|---|
| *Test Description*<br>**Key layout ease of use.** | | |
| *Required for:*<br>**All Apps.** | | |
| *Testing Note*<br>1. Key layout ease of use should only be tested to the extent that it can be influenced by the application. Any limitations of the device that cannot be overcome by application design should be disregarded.<br>2. Where the device offers multiple input methods (e.g. hardware keypad / touch screen keypad), all the input methods available during normal use of the application should be tested.<br>*Testing Steps*<br>Use the application, moving between screens.<br><br>*RESULT:*<br>1. The buttons should be easy to use.<br>2. Button usage should be suitable for both a left-handed and right-handed person, within the physical constraints of the device design. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL** | | |

### 7.6 Application speed

| *Test ID*<br>**7.6** | *Test Title*<br>**UI - Application speed** | |
|---|---|---|
| *Test Description*<br>**The Application works in the device it was targeted for, and 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.** | | |
| *Required for:*<br>**All applications.** | | |
| *Testing Note*<br>The developer / publisher is expected to test the entire Application: for example, play through the entire game on the target handset. The tester will only conduct a representative sample test of the Application in different areas if possible, for a 15 minutes period only.<br><br>*Testing Steps*<br>1. Use the Application.<br>2. Observe how fast the Application is to use, and if it is too slow or too fast in its operation for good usability.<br>3. If the Application behavior is incontrollable due to its speed, please report such findings.<br><br>*RESULT:*<br>1. The Application is usable on the device.<br>2. The speed of the Application is good enough for the Application usage (i.e. the Application frame rate or response to user input must remain adequate, and must not compromise the Application usage, or prevent the user from progressing normally). | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL** | | |

### 7.7 Error messages

| *Test ID*<br>**7.7** | *Test Title*<br>**UI – Error messages** | |
|---|---|---|
| *Test Description*<br>**Error messages.** | | |
| *Required for:*<br>**All applications.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>Use the application, moving between screens.<br><br>*RESULT:*<br>1. Any error messages in the Application must be clearly understandable.<br>2. Error messages must clearly explain to a user the nature of the problem, and indicate what action needs to be taken (where appropriate). | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL** | | |

### 7.8 Function progress

| *Test ID*<br>**7.8** | *Test Title*<br>**UI – Function progress** | |
|---|---|---|
| *Test Description*<br>**Visual indication of the function execution progress.** | | |
| *Required for:*<br>**All applications.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>Use the application, moving between screens.<br><br>*RESULT:*<br>1. Any function selected in the Application should start within 5 seconds.<br>2. There must be some visual indication that the function is being performed.<br>3. The visual indication can be anything that the user would understand as a response, e.g.<br>- prompting for user input;<br>- displaying splash screens or progress bars;<br>- displaying text such as “Please wait...”, etc. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL** | | |

### 7.9 Actions while rendering

| *Test ID*<br>**7.9** | *Test Title*<br>**UI – Actions while rendering** | |
|---|---|---|
| *Test Description*<br>**Application must not perform inappropriate actions while thinking or rendering** | | |
| *Required for:*<br>**All applications.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>Make user input while the Application or handset is busy processing or rendering.<br><br>*RESULT:*<br>There must be no inappropriate reaction by the Application. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL** | | |

### 7.10 Multiple display format handling

| *Test ID*<br>**7.10** | *Test Title*<br>**UI – Multiple Display Format Handling** | |
|---|---|---|
| *Test Description*<br>**Where the device and Application can display in multiple formats (e.g. portrait / landscape, internal / external display), the elements of the application should be correctly formatted in all display environments.** | | |
| *Required for:*<br>**Applications that support multiple display formats, on device with multiple display formats support.**<br>*Not required for:*<br>**1. Device which does not have multiple display formats;**<br>**2. Applications that do not support multiple display formats, regardless of device support.** | | |
| *Testing Note*<br>*For this test, a failure would be a gross error that makes the application difficult to use, or is seriously misleading in some way. Minor errors that do not impede functionality should be passed, but the details added to the Result of Test information as a text note.*<br><br>*Testing Steps*<br>Operate the Application and make use of all available display formats in multiple functions.<br><br>*RESULT:*<br>The Application should display correctly without obvious errors in all formats. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)**<br><br>☐ **Device does not support multiple display formats.**<br><br>☐ **Application does not support multiple display formats by design.** | | |

### 7.11 Differing screen sizes

| *Test ID*<br>**7.11** | *Test Title*<br>**UI – Differing screen sizes** | |
|---|---|---|
| *Test Description*<br>**Where the application is designed to work on multiple devices it must be able to display correctly on differing screen sizes** | | |
| *Required for:*<br>**Applications that support multiple devices**<br>*Not required for:*<br>**Applications that target specific devices** | | |
| *Testing Note*<br>*For this test, a failure would be the inability to display correctly on devices with different screen sizes.*<br><br>*Testing Steps*<br>Operate the Application on two devices with differing screen sizes.<br><br>*RESULT:*<br>The Application should display correctly without obvious errors. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)**<br><br>☐ **Application does not support multiple devices.** | | |

### 7.12 Multiple format input handling

| *Test ID*<br>**7.12** | *Test Title*<br>**UI – Multiple Format Input Handling** | |
|---|---|---|
| *Test Description*<br>**Where the device and application can accept input in multiple formats (e.g. external touchscreen / external keypad / internal touchscreen / internal keypad / QWERTY layout / 12-key layout and others), the application must work correctly with all supported input methods.** | | |
| *Required for:*<br>**Applications that support multiple input formats, on device with multiple input format support.**<br>*Not required for:*<br>**1. Device which does not have multiple input formats;**<br>**2. Applications that do not support multiple input formats, regardless of device support.** | | |
| *Testing Note*<br>*For this test, a failure would be a gross error that makes the application difficult to use, or is seriously misleading in some way. Minor errors that do not impede functionality should be passed, but the details added to the Result of Test information as a text note.*<br><br>*Testing Steps*<br>Operate the Application and make use of all input methods in all functions.<br><br>*RESULT:*<br>The Application should accept input correctly in all supported formats. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)**<br><br>☐ **Device does not support multiple input formats.**<br><br>☐ **Application does not support multiple input formats by design.** | | |

### 7.13 Accelerometer/motion sensor responses

| *Test ID*<br>**7.13** | *Test Title*<br>**UI – Accelerometer / Motion Sensor Responses** | |
|---|---|---|
| *Test Description*<br>**The response of the application to movement or change of alignment of the device should not impair use of the application, nor be likely to confuse the user.** | | |
| *Required for:*<br>**All Applications, except where both device and Application lack accelerometer / motion sensor support.**<br>*Not required for:*<br>**Application where both it and the device lack accelerometer / motion sensor support.** | | |
| *Testing Note*<br>1. Testing should be performed even where either the device or the Application (but not both) lack accelerometer support, in order to determine any unexpected reaction to the presence or absence of motion sensor responses.<br>2. Minor hesitations or inaccuracies are permissible. To fail, the problems must be serious enough to make it difficult to use the application.<br>3. The device could have adjustable orientation (accelerometer rotation) found in Settings\Sound & Display\Display Settings. Try checking the box labelled “Orientation” to switch orientation automatically when rotating phone.<br><br>*Testing Steps*<br>Operate the Application and make use of functions while changing the position, angle and alignment of the device and subjecting it to slow, rapid, and random movements.<br><br>*RESULT:*<br>The response of the application to movement or change of alignment of the device should not impair use of the application, nor be likely to confuse the user. Application should change between portrait and landscape modes without confusing errors being displayed to user. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)**<br><br>☐ **Device not equipped with accelerometer / motion sensor.**<br><br>☐ **Application does not make use of accelerometer / motion sensor.** | | |

### 7.14 Spelling errors

| *Test ID*<br>**7.14** | *Test Title*<br>**UI - Spelling errors** | |
|---|---|---|
| *Test Description*<br>**The Application must be free of spelling errors.** | | |
| *Required for:*<br>**All applications.** | | |
| *Testing Note*<br>1. A spelling error is defined as a strict mis-spelling of a word (no grammar or punctuation rules will be applied). Missing diacritics and accents (e.g. acutes, cedillas, umlauts etc) will not be reported as spelling errors.<br>2. The tester will perform the test as specified below, but the developer must ensure that this requirement is fulfilled throughout the Application.<br>3. In all cases, spelling shall be acceptable if it conforms to the norm for a selected language or location.<br>4. For generic English, US spelling is to be regarded as the norm, but British spelling will be acceptable so long as the chosen spelling is used throughout.<br><br>*Testing Steps*<br>1. Launch Application in target language.<br>2. Check text appearing in:<br>a) Splash/Title/Logo/Loading Screen;<br>b) Main Menu and all its subsidiary menus;<br>c) Help/Instructions Screen(s);<br>d) About screen;<br>e) Application Pause Menu and all its subsidiary menus (if present).<br><br>*RESULT:*<br>No spelling errors must be present in the defined areas. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL** | | |

### 7.15 Technical text errors

| *Test ID*<br>**7.15** | *Test Title*<br>**UI - Technical text errors** | |
|---|---|---|

*Test 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.**

*Required for:*

**All applications.**

*Testing Note*

1. The tester will perform the test as specified below, but the developer must ensure that this requirement is fulfilled throughout the Application.
2. All text in each target language is displayed without corruption, distortion or other display problems. Examples of failures may include:
    a) Menu item text labels incorrectly aligned with cursor;
    b) Button text label over-running the button area or truncated such that its meaning is not clear;
    c) Text over-running or being truncated in 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, or text overlapping user interface elements (but see note 3 below);
    f) Text being cut horizontally.
3. Text overlapping user interface elements may be allowable where
    a) The developer has stated that this is by design, and
    b) There is no impairment of the user experience.

*Testing Steps*

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).

*RESULT:*
All text located in the specified areas is shown without technical display issues that hinder legibility.

*Result of Test*

☐ **PASS** ☐ **FAIL**

# 8 Language

## 8.1 Correct operation

| *Test ID*<br>**8.1** | *Test Title*<br>**Language – Correct operation** | |
|---|---|---|
| *Test Description*<br>**Ensure that the Application works correctly with all appropriate languages.** | | |
| *Required for:*<br>**All applications.** | | |
| *Testing Note*<br>1. Translation table with all text used in UI should be provided to Test team before testing starts.<br><br>*Testing Steps*<br>1. If handset supports more than one language, set handset to a language not already tested in certification testing.<br>2. Launch the Application and perform brief testing with aim to go through all possible screens, menu, messages.<br>3. If Application Specification specifies that Application detects selected handset language, ensure Application displays appropriate for each supported language.<br>4. Exit the Application<br>5. Repeat steps 1 to 4 for each supported language.<br><br>*RESULT:*<br>1. All text content is rendered in the correct/expected language.<br>2. Ensure Application detects correct language and renders content as appropriate (if applicable). | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL** | | |

### 8.2 Manual selection

| *Test ID*<br>**8.2** | *Test Title*<br>**Language – Manual selection** | |
|---|---|---|
| *Test Description*<br>**Ensure that the Application allows selection of languages.** | | |
| *Required for:*<br>**Application which allows selection of languages within the Application.**<br>*Not Required for:*<br>**Application that does not permit selection of languages within the Application.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>1. Set Application to each language using language selection facility of the Application.<br>2. Perform brief testing.<br><br>*RESULT:*<br>1. User is able to select all desired languages.<br>2. All text content is rendered in the correct/expected language. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)**<br><br>☐ **Application does not permit selection of languages.** | | |

### 8.3 Supported formats

| *Test ID*<br>**8.3** | *Test Title*<br>**Language – Supported formats** | |
|---|---|---|
| *Test Description*<br>**Ensure that the Application supports all date/time/numeric/currency features for supported languages** | | |
| *Required for:*<br>**All applications.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>Verify that date, time, time zone, week start, numeric separators and currency, are formatted appropriately for the implemented language's target country and supported throughout the Application.<br><br>*RESULT:*<br>All text content relating to date/time/numeric/currency fields are rendered in the correct/expected language format. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL** | | |

### 8.4 International characters

| *Test ID*<br>**8.4** | *Test Title*<br>**Language – International characters** | |
|---|---|---|
| *Test Description*<br>**Ensure that the Application accepts and displays all appropriate international characters correctly.** | | |
| *Required for:*<br>**All applications.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>Verify that all data entry fields accept and properly display all International characters.<br><br>*RESULT:*<br>All international text characters are rendered in the correct/expected language. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL** | | |

# 9 Performance

## 9.1 Suspend/resume from main menu

| *Test ID*<br>**9.1** | *Test Title*<br>**Lifecycle – Suspend / resume from main menu** | |
|---|---|---|
| *Test Description*<br>**Ensure that the Application suspends when at the Application main menu.** | | |
| *Required for:*<br>**All applications.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>1. Launch the Application.<br>2. Go to the main menu of the Application.<br>3. Suspend the Application<br>4. Resume the Application<br><br>*RESULT:*<br>Application should suspend and resume correctly, and resume at a point that does not impair the user experience. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL** | | |

### 9.2 Suspend while executing

| *Test ID*<br>**9.2** | *Test Title*<br>**Lifecycle – Suspend while executing** | |
|---|---|---|
| *Test Description*<br>**Check for Suspend in the middle of Application execution.** | | |
| *Required for:*<br>**All applications.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>1. Launch the Application.<br>2. During Application execution, suspend the Application<br>3. Resume the Application<br><br>*RESULT:*<br>Application should suspend and resume correctly, and resume at a point that does not impair the user experience. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL** | | |

### 9.3 Resume

| *Test ID*<br>**9.3** | *Test Title*<br>**Lifecycle - Resume** | |
|---|---|---|
| *Test Description*<br>**Ensure that the Application resumes correctly.** | | |
| *Required for:*<br>**All applications.** | | |
| *Testing Note*<br>The objective of this test is to confirm the application's stability when suspended and resumed multiple times from different locations in one test cycle.<br>*Testing Steps*<br>1. Perform **Lifecycle – Suspend / resume from main menu**<br>2. Resume the Application<br>4. Perform **Lifecycle – Suspend while executing**<br>5. Repeat step 2.<br><br>*RESULT:*<br>The Application resumes to the point where it was suspended, or to a point that does not impair the user experience. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL** | | |

### 9.4 Influence on terminal system features

| *Test ID*<br>**9.4** | *Test Title*<br>**Lifecycle - Influence on Terminal System Features** | |
|---|---|---|
| *Test Description*<br>**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 returning to foreground the Application must resume its execution correctly. While in the background the Application must not emit any audio (unless it is part of its specific purpose to do so) and all handset functions should remain intact.**<br>**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.** | | |
| *Not Required for:*<br>**Application which is not written to run as a Service.**<br>*Required for:*<br>**Application which is written to run as a Service.** | | |
| *Testing Note*<br>1. When performing the test below, the Application either needs to be switched to background or foreground. The actual method used depends on the functionality of the target terminal<br>2. If features are found to be disabled or not able to be used and are not listed in the help file the Application must fail this test.<br>3. The developer should be asked whether the Application is written to run as a Service, and the answer should determine whether this test is applicable.<br><br>*Testing Steps*<br>1. Launch the Application.<br>2. Familiarize yourself with the help file.<br>3. Switch Application to background while the Application is running and in each of the following locations within the Application:<br>- During initial loading of the Application<br>- Main Menu<br>- In the process of normal Application usage<br>- In the process of loading data from the network (where applicable)<br>- In pause state (where applicable).<br>4. Try using system features and Applications of the terminal (Phone Application, Calendar, Clock, Contacts, Browser, etc). In particular try the following:<br>- make a voice call<br>- make a video call (if supported by terminal)<br>- send an SMS message<br>- send an MMS message<br>- open a WAP and WEB page (if supported by terminal)<br>- start a streaming session using a WEB browser or media player.<br>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 (unless this is its specific purpose by design).<br>6. Switch the Application back to the foreground. | | |

| *Test ID*<br>**9.4** | *Test Title*<br>**Lifecycle - Influence on Terminal System Features** | |
|---|---|---|
| 7. Verify that the Application operates normally by using it for a time period of 5 minutes.<br><br>*RESULT:*<br>1. Terminal's system features and Applications can be used normally<br>2. In case the Application execution causes some changes to normal use of system features and Applications, this is adequately explained in the help file of the Application.<br>3. After the Application is brought back to foreground, it continues to operate normally. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)**<br><br>☐ **Application is not written to run as a Service.** | | |

### 9.5 Resource sharing - database

| *Test ID*<br>**9.5** | *Test Title*<br>**Lifecycle - Resource Sharing – Database** | |
|---|---|---|
| *Test Description*<br>**Check that database resources are properly shared between Application and a competing Application.** | | |
| *Required for:*<br>**Applications which make use of Contacts database.**<br>*Not required for:*<br>**Applications which do not make use of Contacts database.** | | |
| *Testing Note*<br>Application under test should not be the device native Contacts application.<br><br>*Testing Steps*<br>1. Launch the Application.<br>2. Suspend Application<br>3. Launch the device Contacts application<br>4. Add a new entry into contacts.<br>5. Remove an existing entry from contacts.<br>6. Resume the Application under test<br>7. Check Application state.<br><br>*RESULT:*<br>1. Application should continue from the previous state prior to being suspended.<br>2. Application should see the new entry and the deleted entry. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>☐ **Application does not use Contacts database.** | | |

# 10 Media

## 10.1 Application mute option

| *Test ID*<br>**10.1** | *Test Title*<br>**Media – Application mute option** | |
|---|---|---|
| *Test Description*<br>**Ensure that the Application has a Mute or Sound On / Off setting.** | | |
| *Required for:*<br>**Applications with sound settings.**<br>*Not Required for:*<br>**Application which is declared not to have a Application mute facility by design.** | | |
| *Testing Note*<br>It will be sufficient for the application to respect the settings of the device volume controls, such that sound can be turned down to zero before the application launches, and the application then makes no sound.<br><br>*Testing Steps*<br>Use the application and note the effects of either muting the device via the device volume controls or via a menu setting.<br><br>*RESULT:*<br>Application must provide a means of muting background music and / or sound effects. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)** *(Note that both Exceptions may be selected if appropriate)*<br><br>☐ **Application does not have Application mute facility by design.**<br><br>☐ **Application does not have any settings options.** | | |

### 10.2 Settings statuses understandable

| *Test ID*<br>**10.2** | *Test Title*<br>**Media – Settings statuses understandable** | |
|---|---|---|
| *Test Description*<br>**Ensure that the Application settings statuses are easily understandable.** | | |
| *Required for:*<br>**Applications which have Settings options.**<br>*Not required for:*<br>**Applications which do not have Settings options.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>1. Start the application.<br>2. Change the status of settings<br><br>*RESULT:*<br>The current status of each setting must be easily understood. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)**<br><br>☐ **Application does not have any settings options.** | | |

### 10.3 Settings do not impair application

| *Test ID*<br>**10.3** | *Test Title*<br>**Media – Settings do not impair Application** | |
|---|---|---|
| *Test Description*<br>**The status of the Application settings does not impair the Application functionality**. | | |
| *Required for:*<br>**Applications which have Settings options.**<br>*Not required for:*<br>**Applications which do not have Settings options.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>1. Start the application<br>2. Change settings<br>3. Observe the result.<br><br>*RESULT:*<br>The current status of the settings does not affect the Application operation (e.g. whether or not the sound is on in a game). For example, switching off the sound does not change the game's functionality. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)**<br><br>☐ **Application does not have any settings options.** | | |

### 10.4 Settings combinations

| *Test ID*<br>**10.4** | *Test Title*<br>**Media – Settings combinations** | |
|---|---|---|
| *Test Description*<br>**Restrictive combinations of Application settings is not permitted.** | | |
| *Required for:*<br>**Applications which have Settings options.**<br>*Not required for:*<br>**Applications which do not have Settings options.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>4. Start the application<br>5. Change settings<br>6. Observe the result.<br><br>*RESULT:*<br>Each setting has separate enable/disable functionality (e.g. Vibration and Sound). Any combinations of settings (e.g., Vibration and Sound) should not limit the user's choice so as to exclude specific combinations. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)**<br><br>☐ **Application does not have any settings options.** | | |

### 10.5 Saving settings

| *Test ID*<br>**10.5** | *Test Title*<br>**Media – Saving settings** | |
|---|---|---|
| *Test Description*<br>**Ensure that the Application saves all settings on exit.** | | |
| *Required for:*<br>**Applications which have Settings options.**<br>*Not required for:*<br>**1. Applications which do not have Settings options;**<br>**2. Applications which do not save changes to Settings by design.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>1. Start the application<br>2. Change an item in settings<br>3. Exit and restart the application<br>4. Observe the setting status<br><br>*RESULT:*<br>When an Application exits, all settings must be saved.<br>Restarting the Application will restore the saved settings. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)**<br><br>☐ **Application does not have any settings options.**<br><br>☐ **Application is declared not to save settings on close by design.** | | |

### 10.6 Specific functions

| *Test ID*<br>**10.6** | *Test Title*<br>**Media – Specific functions** | |
|---|---|---|
| *Test Description*<br>**Ensure Application sounds have specific functions and should not be over utilised.** | | |
| *Required for:*<br>**Applications with sound.**<br>*Not required for:*<br>**Applications without sound.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>Use the application and observe the sounds utilised<br><br>*RESULT:*<br>Each sound should have a specific function, and should not be over used (e.g. game completing with a minute of random noise is not permitted). | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)**<br><br>☐ **Application does not have any sounds.** | | |

# 11 Menu

## 11.1 Help and about

| *Test ID*<br>**11.1** | *Test Title*<br>**Menu Structure – Help & About items** | |
|---|---|---|
| *Test Description*<br>**The Application should contain standard Menu items Help & About.** | | |
| *Required for:*<br>**Applications with user interface capable of displaying information to user.**<br>*Not required for:*<br>**Applications without user interface capable of displaying information to user.** | | |
| *Testing Note 1*<br>It is a requirement that applications with a user interface should contain Help information, to explain to the user how the Application works; and About information, so that the user can easily identify the exact version of the Application installed, the developer of the Application, and the developer contact details.<br>*Testing Note 2*<br>This test can be passed if the application contains the information in Testing Note 1 and it is easy to access, even if the items are not named exactly as in the test steps. The tester should indicate in their report if the application has passed this test on a value judgement like this, rather than a literal interpretation of the test steps.<br>*Testing Note 3*<br>If it is clear that the application's purpose requires network coverage to operate, then it will be sufficient for the Help to be provided through a browser connection rather than being contained in the application. In the opposite case, where most functions of the application can be used while the device is offline, then the application should have Help that can be accessed without needing a data connection.<br>*Testing Note 4*<br>Where the amount or type of Help information appears insufficient for easy use of the application, the tester should give specific instances in their report.<br><br>*Testing Steps*<br>1. Start the application<br>2. Access the Help and About sections<br><br>*RESULT:*<br>1. Menu items like Help and About are required to be presented on the main menu or other easily-found screen of the Application.<br>About functions should contain the Application version number and author information.<br>2. Help should include the aim of the Application, usage of the keys (e.g. for games) and other instructions. If the text of the help is too long, it should be divided into smaller sections and/or organized differently.<br>3. Help must be accurate and consistent with the Application functionality and the handset specifics. | | |

| *Test ID*<br>**11.1** | *Test Title*<br>**Menu Structure – Help & About items** | **continued from previous page** |
|---|---|---|

*Result of Test*

☐ **PASS** ☐ **FAIL**

**EXCEPTION(S)**

☐ **Application has no user menu by design, or the application design / purpose is such that these items cannot be displayed to the user.**

### 11.2 Valid actions

| *Test ID*<br>**11.2** | *Test Title*<br>**Menu Options – Valid actions** | |
|---|---|---|
| *Test Description*<br>**Selected and/or changed Application items should invoke valid actions.** | | |
| *Required for:*<br>**All applications.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>1. Start and use application.<br>2. Observe the results.<br><br>*RESULT:*<br>All Application items that can be selected and/or changed by user, must invoke valid actions according with the Application Specifications | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL** | | |

# 12 Functionality

## 12.1 Functionality sanity check

| *Test ID*<br>**12.1** | *Test Title*<br>**Major Functionality – Sanity check** | |
|---|---|---|
| *Test Description*<br>**Major Functionality Sanity Check.** | | |
| *Required for:*<br>**All applications.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>1. Launch the Application.<br>2. Operate the Application, exploring all screens and functions.<br>3. Document all instances of non-compliance with Application specifications.<br>4. Document unexpected functionality outside scope of Application specifications.<br><br>*RESULT:*<br>All specific Application functionality such as algorithms, calculations, measurements, scoring, etc. must be implemented correctly. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL** | | |

### 12.2 Application hidden features

| *Test ID*<br>**12.2** | *Test Title*<br>**Major Functionality – Application hidden features** | |
|---|---|---|
| *Test Description*<br>**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.** | | |
| *Required for:*<br>**All applications.** | | |
| *Testing Note*<br>1. The tester will perform the test as specified above, but the developer must ensure that this requirement is fulfilled throughout the Application.<br>2. Allowable functions are:<br>• Cheat codes<br>• Unlocking the Application, for example from demo version to a full version.<br><br>*Testing Steps*<br>1. Install user's personal data to the device (for example calendar, contact, to-do, images, text files, documents, etc).<br>2. Launch the Application.<br>3. Familiarise yourself with the help file.<br>4. Use the Application and all of its features for a time period of 15 minutes.<br>5. Compare the documented Application functionality to the features you find, and what is in the help file.<br><br>*RESULT:*<br>1. All the features are introduced in the Help, the Application has no hidden features.<br>2. The data inserted to the device has not been corrupted.<br>3. The phone bill (or log) does not show any additional communication.<br>4. The phone bill (or log or data counter, if applicable) does not show an excessive amount of transferred data.<br>5. The other Applications in the device must run as they did before Application installation. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL** | | |

# 13 Keys

## 13.1 Scrolling in menus

| *Test ID*<br>**13.1** | *Test Title*<br>**Key Press – Scrolling in menus** | |
|---|---|---|
| *Test Description*<br>**Scrolling in menus.** | | |
| *Required for:*<br>**Applications with user interaction.**<br>*Not required for:*<br>**Applications without user interaction.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>1. Launch the Application.<br>2. Use the keypad or other navigation device to scroll vertically and (if applicable) horizontally in the Main menu item list.<br><br>*RESULT:*<br>This MUST scroll in the menu item list with no adverse effects on the Application. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)**<br><br>☐ **Application does not have user interaction by design.** | | |

### 13.2 Selection key

| *Test ID*<br>**13.2** | *Test Title*<br>**Key Press – Selection key** | |
|---|---|---|
| *Test Description*<br>**Selection key selects menu items.** | | |
| *Required for:*<br>**Applications with user interaction.**<br>*Not required for:*<br>**Applications without user interaction.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>1. Launch the Application.<br>2. Press the primary selection key or device equivalent in the main menu item list.<br><br>*RESULT:*<br>This MUST select the menu item with no adverse effects on the Application. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)**<br><br>☐ **Application does not have user interaction by design.** | | |

### 13.3 Text field scrolling

| *Test ID*<br>**13.3** | *Test Title*<br>**Key Press – Text field scrolling** | |
|---|---|---|
| *Test Description*<br>**Scrolling in text fields and About / Help screens.** | | |
| *Required for:*<br>**Applications with user interaction.**<br>*Not required for:*<br>**Applications without user interaction.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>1. Launch the Application.<br>2. Use the scrolling functions of the keypad or other navigation device in a text dialog, for example: About and Help.<br><br>*RESULT:*<br>This should scroll vertically and (if applicable) horizontally in the dialog. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)**<br><br>☐ **Application does not have user interaction by design.** | | |

### 13.4 Pause

| *Test ID*<br>**13.4** | *Test Title*<br>**Key Press – Pause** | |
|---|---|---|
| *Test Description*<br>**The Application must support a pause feature in areas of the Application where immediate user interaction is needed (for example in game).**<br>**The pause feature must support an option to resume the Application, and an option to go back to the main menu of the Application.** | | |
| *Required for:*<br>**Applications requiring time-sensitive user interaction.**<br>*Not Required for:*<br>**1. Applications where immediate user intervention is not needed (for example timer Application);**<br>**2. Applications without user interaction.** | | |
| *Testing Note*<br>The developer is encouraged to use the available APIs for pause and continue methods.<br><br>*Testing Steps*<br>1. Launch the Application.<br>2. Use the Application and its features.<br>3. Check that the user can pause the Application at any time if so desired.<br>4. Check that the Application can also be "un-paused".<br><br>*RESULT:*<br>1. The user can pause the Application and the pause feature must support an option to resume .<br>2. All time-specific features of the Application are disabled at the time of the pause.<br>3. There is a clear indication that the Application is in a paused state.<br>4. There is a clear indication how the user can return from the paused state. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)**<br><br>☐ **Application does not require immediate user intervention.**<br><br>☐ **Application does not have user interaction by design.** | | |

### 13.5 Simultaneous key presses

| *Test ID*<br>**13.5** | *Test Title*<br>**Key Press – Simultaneous key presses** | |
|---|---|---|
| *Test Description*<br>**Ensure that the Application copes with simultaneous key presses.** | | |
| *Required for:*<br>**Applications with user interaction.**<br>*Not required for:*<br>**Applications without user interaction.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>1. Launch the Application.<br>2. Press combinations of keys simultaneously, from a selection of UP, DOWN, LEFT, RIGHT, CENTER and all other available keys, excepting any which intentionally terminate or exit the application, or intentionally launch a function that would invalidate the test.<br><br>*RESULT:*<br>The Application should not be put into an unusable or incomprehensible state by simultaneous key presses. Any error messages generated should be meaningful. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)**<br><br>☐ **Application does not have user interaction by design.** | | |

### 13.6 Multi key presses

| *Test ID*<br>**13.6** | *Test Title*<br>**Key Press – Multi key presses** | |
|---|---|---|
| *Test Description*<br>**If device and application support multi key press operation, these should perform as expected.** | | |
| *Required for:*<br>**Application that supports multi key press actions, on device that also supports this.**<br>*Not required for:*<br>**Application or device without support for multi key press.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>1. Launch the Application.<br>2. Use the multi key press actions as documented by the developer in the Help, or documented separately.<br><br>*RESULT:*<br>All reactions to multi key presses should be as predicted by the documentation and should not leave the Application in an unusable state. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)**<br><br>☐ **Application does not have user interaction by design.**<br><br>☐ **Application does not support multi key press.**<br><br>☐ **Device does not support multi key press.** | | |

# 14 Device Specific Tests

## 14.1 Device close

| *Test ID*<br>**14.1** | *Test Title*<br>**Action - Device Close** | |
|---|---|---|
| *Test Description*<br>**Ensure that the Application while launching handles closing of the device correctly.** | | |
| *Required for:*<br>**Applications on devices with open / close functionality.**<br>*Not Required for:*<br>**Device without open / close functionality.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>1. Launch the Application.<br>2. While the Application is launching (i.e. "Please wait" screen), close the device and then 3-4 times quickly open and close it.<br>3. Open the device.<br><br>*RESULT:*<br>The Application returns to the same state before the interruption. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)**<br><br>☐ **Device does not have open / close functionality.** | | |

### 14.2 Device open

| *Test ID*<br>**14.2** | *Test Title*<br>**Action – Device Open** | |
|---|---|---|
| *Test Description*<br>**Ensure that the Application handles device opening correctly.** | | |
| *Required for:*<br>**Applications on devices with open / close functionality.**<br>*Not Required for:*<br>**Device without open / close functionality.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>1. Launch the Application.<br>2. Use the Application and its features.<br>3. Close the device.<br>4. Open the device.<br><br>*RESULT:*<br>The Application returns to the same state before the interruption. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)**<br><br>☐ **Device does not have open / close functionality.** | | |

# 15 Stability

## 15.1 Application stability

| *Test ID*<br>**15.1** | *Test Title*<br>**Stability – Application stability** | |
|---|---|---|
| *Test Description*<br>**The Application must not crash or freeze at any time while running on the device.** | | |
| *Required for:*<br>**All applications.** | | |
| *Testing Note*<br>1. During any time of the testing observe the Application behavior.<br>2. The report must indicate if the error can be reproduced or not.<br><br>*Testing Steps*<br>1. Start to test the Application.<br>2. Observe the Application behavior during the testing.<br><br>*RESULT:*<br>The Application must not freeze or exit unexpectedly at any time. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL** | | |

### 15.2 Application behaviour after forced close

| *Test ID*<br>**15.2** | *Test Title*<br>**Stability – Application behaviour after forcible close by System** | |
|---|---|---|
| *Test Description*<br>**Application must preserve sufficient state information to cope with forcible close by the system.** | | |
| *Required for:*<br>**All applications.** | | |
| *Testing Note*<br>If it is not possible to remove the device battery, a power cycle should be forced with the device power key instead.<br>*Testing Steps*<br>1. Start the Application.<br>2. Exercise the functionality of the application, including any function that builds or saves information.<br>3. Press the Home key to return to the Home screen and ensure the application is switched into a paused state.<br>4. Remove the battery to instantly kill the application, as the system does when dealing with a low memory situation.<br>5. Restart the handset and open the application again.<br>6. Check the application is in a usable state and any information built or saved before the close has been retained.<br><br>*RESULT:*<br>The Application must not lose any information that it implies would be preserved, nor become difficult to use subsequently, as a result of a forcible closure by the system. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL** | | |

## 16 Data Handling

### 16.1 Save game state

| *Test ID*<br>**16.1** | *Test Title*<br>**Save record – Game state** | |
|---|---|---|
| *Test Description*<br>**Ensure that the Application can save its game state/high score table information into persistent memory.** | | |
| *Required for:*<br>**1. Application where user may exit part completed game;**<br>**2. Application where a player high score value is identified.**<br>*Not Required for:*<br>**Application which does not have game state / high score elements.** | | |
| *Testing Note*<br><br>*Testing Steps*<br>1. Launch the Application and start a game.<br>2. Bring up the game menu and exit saving game position.<br>3. Run Application again and continue game.<br>4. Play game until a high score is obtained.<br>5. Bring up game menu and check High score table.<br>6. Exit Application and restart.<br>7. Check high score table.<br><br>*RESULT:*<br>1. Game state should be as was immediately prior to Application exit.<br>2. The high score table should represent the scores recorded during the Application test. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)**<br><br>☐ **Application does not have game state or high score elements.** | | |

### 16.2 Data deletion

| *Test ID*<br>**16.2** | *Test Title*<br>**Delete – Data deletion** | |
|---|---|---|
| *Test Description*<br>**The Application must indicate whether data will be permanently deleted or offer easy reversal of the deletion.** | | |
| *Required for:*<br>**Application which has function to delete data.**<br>*Not required for:*<br>**Application which does not have function to delete data.** | | |
| *Testing Note*<br>The user should always be required to confirm deletion of data, or have an option to undo deletion, to reduce risk of accidental loss of information through user error.<br>*Testing Steps*<br>1. Launch the Application.<br>2. Use the function which deletes something on the Application.<br>3. Check if there is a reversal (undo) available for the user or that the user is notified before deletion is permanent.<br><br>*RESULT:*<br>1. Before the data deletion, the Application notified the user of deletion, or the Application has an “undo” feature.<br>2. If “undo” is present it works as expected. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)**<br><br>☐ **Application does not have function to delete data.** | | |

### 16.3 Modify record

| *Test ID*<br>**16.3** | *Test Title*<br>**Modify Record** | |
|---|---|---|
| *Test Description*<br>**Ensure that the Application can modify its game state/high score table information into persistent memory.** | | |
| *Required for:*<br>**1. Application which may be exited part-way through game play;**<br>**2. Application which identifies a user high score value.**<br>*Not Required for:*<br>**Application which does not have game state / high score elements.** | | |
| *Testing Note*<br>Repeating the save of game state and high score ensures that the values initially saved can be updated.<br>*Testing Steps*<br>Repeat **Save record – Game state**<br><br>*RESULT:*<br>*Game state is saved/updated* | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)**<br><br>☐ **Application does not have game state / high score elements.** | | |

# 17 Security

## 17.1 Encryption

| *Test ID*<br>**17.1** | *Test Title*<br>**Security – Encryption** | |
|---|---|---|
| *Test Description*<br>**When connections are used encryption is used for sending / receiving sensitive data.** | | |
| *Required for:*<br>**Application identified as communicating sensitive data.**<br>*Not Required for:*<br>**Application identified as not communicating sensitive data.** | | |
| *Testing Note*<br>All sensitive information (personal data, credit card & banking information etc.) must be encrypted during transmission over any network or communication link.<br>*Testing Steps*<br>Refer to supplied information about the application. If the application transmits sensitive data and the developer has not stated encryption is used, this test cannot be passed<br><br>*RESULT:*<br>It has been declared that the Application uses encryption when communicating sensitive data. | | |
| *Result of Test*<br><br>☐ **PASS** ☐ **FAIL**<br><br>**EXCEPTION(S)**<br><br>☐ **Application is stated not to communicate sensitive data.** | | |

### 17.2 Passwords

| *Test ID*<br>**17.2** | *Test Title*<br>**Security – Passwords** | |
|---|---|---|
| *Test Description*<br>**Passwords or other sensitive data are not stored in the device and are not echoed when entered into the Application, sensitive data is always protected by password.** | | |
| *Required for:*<br>**Application which uses passwords or other sensitive data.**<br>*Not Required for:*<br>**Application which does not use passwords or other sensitive data.** | | |
| *Testing Note*<br>1. With passwords the desired approach is that the Application shows which character the user selected and then changes that to an asterisk (*).<br>2. If the user is explicitly asked for permission, a password can be stored to the device memory.<br>3. The objective of the test is to minimise the risk of access to sensitive information should the device be lost, by ensuring that no authentication data can be re-used by simply re-opening the application<br>4. Once sensitive data has been entered, it should not be displayed in plain text anywhere in the application, however it is allowable to have no more than 25% of a sensitive value displayed in plain text (e.g. 4 of the 16 digits of a card number) where this assists the user to distinguish between multiple cards or accounts.<br>5. For the purpose of this test, personal contact details such as those recorded in the phonebook should not be regarded as sensitive. Bank / credit card account numbers, balances & access codes or passwords should be treated as sensitive and be protected from unrestricted access.<br><br>*Testing Steps*<br>1. Launch the Application.<br>2. Go to the section where passwords or other sensitive data (such as credit card details) is input or displayed.<br>3. Input or read some sensitive data. Observe how the data are displayed on the screen.<br>4. Exit the Application.<br>5. Launch the Application.<br>6. Go to the place where sensitive data was inserted or read.<br>7. See if the data is still visible, or can be redisplayed without requiring a password at any point.<br><br>*RESULT:*<br>1. Entering a password or other sensitive data will not leave it in clear text if completion of the fields is interrupted but not exited.<br>2. Passwords, credit card details, or other sensitive data do not remain in clear text in the fields where they were previously entered, when the application is re-entered.<br>3. Sensitive personal data should always need entry of a password before it can be accessed. | | |

| *Test ID*<br>**17.2** | *Test Title*<br>**Security – Passwords** | **continued from previous page** |
|---|---|---|

*Result of Test*

☐ **PASS** ☐ **FAIL**

**EXCEPTION(S)**

☐ **Application does not use passwords or other sensitive data.**