Testing Criteria for Apple iOS Applications
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AQuA
App Quality Alliance

This is the App Quality Alliance (AQuA) Testing Criteria for Apple iOS applications. (Apple, iPhone, iPad and Game Centre are trademarks of Apple Inc.)

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Applications passing the appropriate tests will be deemed by AQuA to be of a high quality standard and will be eligible for inclusion within the AQuA Quality App Directory (www.qualityappdirectory.org)

Section 1 contains testing notes that describe some overall principles and conditions to set up the testing

Section 2 describes a set of non-testable review criteria set up by the distribution channel. It covers a range of areas including the submission criteria and compliance with technical standards that are impractical to test by looking at the completed app.

Section 3 lists the subsets of tests for some apps. It defines a smoke test, a simple app test and a test for framework apps listing the tests required for each.

Section 4 describes the criticality of tests, with some being critical and some being warning. An App can pass with some warnings, but too many will constitute a fail.

Section 5 contains the individual tests.

Section 1: Testing notes

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.

If an application uses another application to perform a function (such as the Facebook application for accessing Facebook details) it should be tested as if the application performed that function itself. In this way the user experience is tested as a complete end-to-end solution and the correct use of the other application is tested as well.

Section 2: Distribution Channel Review Summary Checklist

This section describes a set of non-testable review criteria set up by the distribution channel. It covers a range of areas including the submission criteria and compliance with technical standards that are impractical to test by looking at the completed app.

The full details for iOS apps can be found in the apple developer programme App Store resource centre.
https://developer.apple.com/appstore/resources/approval/guidelines.html

Content Restrictions

For a curated store, apps should be distinct and have some clear purpose. If any Intellectual property is used, such as branding or style or even look and feel, the appropriate permissions must be in place.

Apps should not try to trick the user, either pretending to be something else or having functionality that isn't as described in the metadata.

Apps are likely to be rejected if they show or encourage activities that are illegal, likely to cause offence or glorify violence or violent behaviour, especially if an underage audience is involved.

Technical and Legal constraints

In a closed ecosystem apps can be rejected for using undocumented or private APIs or mechanisms that circumnavigate wider features such as in-app advertising, multiplayer gaming lobbies or integrated push notification.

Any app with malicious code in it, or with features that may cause billing issues – such as hidden text messaging – is likely to be rejected.

Particular attention to the use of location data and privacy issues for the use of sensitive data is often a feature of the review process. If in doubt there are guidelines in the AQuA Best Practice guidelines for these areas.

The store may have regulations on restricting the app distribution by country or by carrier.

Guideline Compliance

And finally there are a series of Developer Guidelines that Apple publish that the developer should follow and ensure that their app is compliant. These cover areas including data use and storage, user interface.

Section 3: Types of apps and their associated subsets of tests

The tests within the Testing Criteria (see section 5) have been developed to test different features of different apps. Not all tests have to be conducted for every type of app.
This section describes the different types of apps and the tests to be carried out for each type.

Introduction

Mobile applications are tested for a number of reasons, chief among these are the needs to protect the customer and the vendor from software that does not work properly or exhibits malicious behaviour. The variety of applications is huge and is growing daily so there is a clear need to tailor testing to the level of complexity

Simple App definition and tests

A Simple iOS Application would be one which does not involve multiuser or multiplayer aspects, does not include in-app purchasing or advertising.
This would involve all of the tests excluding sections 18 and 21.

Framework app definition and tests

There are many applications where the same application framework is used repeatedly to create new applications. This is especially prevalent for dictionaries, books and magazine applications but may occur in any application genre.

For these applications it is clearly excessive to fully test the new application as it is to a large degree an existing application with new resource files. For these applications the appropriate criteria (simple or complex) should be used in the first instance and then the following tests are to be performed for subsequent derived applications.

Test	Title
1.1	OTA Install
3.1	Send/Receive Data
3.4	Resource downloading
7.1	Readability
11.1	Help and About
12.1	Functionality Sanity Check
15.1	Application Stability

Complex Applications

Any application which does not fall into the above categories i.e. *Framework* or *Simple* will be deemed to be *Complex* and will be subject to testing against the full criteria.

Smoke Test

Wikipedia defines a Smoke Test as *"a first test made after assembly or repairs to a system, to provide some assurance that the system under test will not catastrophically fail."*

The Smoke Test is a very basic set of tests that is suitable to confirm that a tested app runs (at least at a basic level) on a subsequent device. The Smoke Test can be used to confirm basic handset compatibility, but does not guaranteed full functionality.

Test cases to be carried out for a Smoke Test:

Test	Title
1.1	OTA Install
1.2	Long Launch Time
7.1	Readability
11.1	Help and about
15.1	Application Stability
15.2	Application behaviour after forced close

Section 4: Critical and Warning levels of tests

We recognise that many of the tests that are performed do not produce a binary result. They are often subjective leaving the interpretation to the tester. It is unfair therefore to fail an application for one minor error that may be down to a tester's opinion.

To account for this, the individual test criteria are marked as either *Critical* or *Warning*.

Critical Level Tests

As the name suggests, a *Critical level* test must be passed. If an application fails the test then the application has an overall fail.

Warning Level Tests

For a test that is considered *Warning level*, we have allowed for four different results; *pass, annoying, difficult* and *impossible*.

These *warning* levels are described as follows;
- *Pass* = the app has passed the test. There are no issues
- *Annoying* = a minor error has occurred with the app - e.g. one or two typos that would make the application not perfect but still very useable
- *Difficult* = a more serious issue has occurred with the app e.g. multiple typos making the application difficult to use but not impossible
- *Impossible* = a very serious issue has occurred with the app - the errors are so bad as to make the application unusable.

Once all appropriate tests have been carried out, points should be attributed according to the following scale.
- Warning levels:
  - Annoying = 1 points
  - Difficult = 2 points
  - Impossible = 4 points
- Critical levels:
  - 5 points

For an application to pass, the errors must not add up to more than three points. Four points or more is a failure.

Severity of error	Warning test type	Critical test type
No error	0 points	0 points
Annoying error	1 point	
Difficult error	2 points	
Impossible error	4 points	
Fail test		5 points

(As an example, an application could have 3 *annoying* results, or 1 *difficult* and 1 *annoying* and still pass.)

Section 5: The tests

1 Install and Launch

1.1 OTA install

Test ID **1.1**	Test Title **OTA install**	**Critical**
Test Description **The Application must install OTA to the device.**		
Required for: **All applications.**		

Testing Note
    1. If errors occur at installation time, any corresponding messages must be reported in the test report.
    2. If the device does not display the icon, then the user must be able to start the Application using other means.
    3. The app should NOT request a re-start of the device
 	
Testing Steps
    1. Push the Application to the device
 	
    RESULT:
    1. The Application installs to the device.
    2. The icon for the Application can be found from the device.
    3. If there is insufficient space, the user is informed.
    4. The application name is correctly displayed in the menu		

Result of Test ☐ **PASS** ☐ **FAIL**		

1.2 Long Launch Time

Test ID	Test Title	Critical
1.2	**Long launch time**	

Test Description
Ensure that the Application notifies the user about a long launch time.

Required for:
All applications.

Testing Note

Testing Steps
      1. Launch the Application.
      2. Observe launch time.
      3. Create saved data if possible in the app or game

      RESULT:
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

☐ **PASS**   ☐ **FAIL**

1.3 Not Applicable

1.4 Uninstall App

Test ID **1.4**	*Test Title* **Uninstall App**	**Critical**
Test Description **The Application must uninstall from the device.**		
Required for: **All applications.**		
Testing Note 1. An external file system tool may be needed to check that all files have been removed. 2. If prompted select remove all files associated with the app 3. Cloud based data (e.g. high score) is permitted to remain 4. Additional purchased data or content (e.g. extra levels) is expected to remain on the device *Testing Steps* 1. From the menu of the device, uninstall the application *RESULT:* 1. The Application is completely removed from the device. 2. No data from the application remains on the device		
Result of Test ☐ **PASS** ☐ **FAIL**		

1.5   Extra Code Download

Test ID	Test Title	Critical
1.5	**Extra Code Download**	

Test Description
      The Application must not download extra code

Required for:
      All applications.

Testing Note
The application may not download, install or launch any additional code

Testing Steps
      1. Launch the application
      2. Check the main features and menus for triggers to download extra code
      3. Observe behaviour during the remaining test on the App

      RESULT:
      1. No code downloading behaviour is observed.

Result of Test

☐ **PASS**　　　　☐ **FAIL**

2 Memory Use

2.1   Memory during run

Test ID 2.1	Test Title File System – Memory during run	Critical
Test Description **Ensure that the Application correctly handles out of memory exceptions during Application execution.**		
Required for: **Application that writes to file system.**		
Testing Note *Testing Steps* 1. Operate the Application in such a way so as to force the Application to write files into the file system. 2. Exit the Application. (Double click on the home key) 3. Fill the file system to its capacity or near it. 4. Operate the Application - try to explore screens and functions, which access the file system. *RESULT:* 1. The Application should handle any out of memory exceptions correctly. 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 ☐ **PASS** ☐ **FAIL** **This test is not applicable where...** ☐ **The Application** does not write to file system.		

2.2 Multiple Launch

Test ID **2.2**	Test Title **Multiple Launch**	**Critical**
Test Description **Suspend and re-launch of the application is handled correctly.**		
Required for: **All applications**		

Testing Note
 	
Testing Steps
     1.   When the application is running
     2.   Suspend the application (single click on the home key)
     3.   Re-launch the application from the app menu
 	
    RESULT:
   1. The application should resume from where it was suspended
   2. Some applications may be designed to reset to the initial condition if that makes more sense than resuming		

Result of Test ☐ **PASS** ☐ **FAIL**		

2.3 Idle

Test ID 2.3	Test Title Ide	Critical

Test Description
The application recovers from an idle state correctly.

Required for:
All applications

Testing Note

Make sure the Device is not plugged into an external source of Power
Auto Sleep Mode settings should be disabled.

Testing Steps
1. When the application is running
2. Leave game in an idle state for 15 - 30 minutes.
3. Check that the backlight switches off after the time set in the device settings.
4. Re-launch the application from the app menu

RESULT:
1. The application should resume from where it was left
2. The backlight should go off after any videos or similar have finished.

Result of Test

☐ **PASS**   ☐ **FAIL**

2.4 Cancel Lengthy Operation

Test ID	Test Title	Critical
2.4	**Cancel Lengthy Operation**	

Test Description
The application allows the user to cancel any lengthy operations.

Required for:
All applications

Testing Note

Testing Steps
   1. Any online operation that is taking more than 10 seconds should provide the user with a cancel option
 	
   RESULT:
   1. The application should resume to a workable state from the cancelled operation.

Result of Test
☐ **PASS**   ☐ **FAIL**

3 Connectivity

3.1 Send/Receive Data

Test ID	Test Title	Critical
3.1	HTTP – Send/receive data	

Test Description
Ensure that the Application can connect via a valid Internet Access and send/receive data using HTTP

Required for:
Application using HTTP network connection.

Testing Note

Where the application uses a different application to perform the data transfer e.g. Facebook, Flickr etc. it still needs to be tested to ensure end-to-end functionality.
Check interactions with Social network functions

Testing Steps

1. Setup the device to use a Wi-Fi connection.
2. Launch the Application.
3. Initiate an HTTP network connection from the Application.
4. Conduct some action that ensures a data transfer action via the Network Connection. (For example, downloadable content in a game)
5. Exit the application (double click on the home key)
6. Disable Wi-Fi
7. Enable Mobile Data (3G/4G)
8. Repeat steps 2,3,4 above.
9. Make sure to check social network login, read and upload if applicable

RESULT:
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

☐ **PASS**   ☐ **FAIL**

This test is not applicable where...

☐ The Application does not use HTTP network connection.

3.2 Network delays and loss of connection

Test ID **3.2**	Test Title **Network connectivity - Network delays and the loss of connection**	**Critical**
Test Description **When the Application uses network capabilities, it must be able to handle network delays and any loss of connection.**		
Required for: **Application that uses Network Connection.**		
Testing Note Where the application uses a different application to perform the data transfer e.g. Facebook, Flickr etc. it still needs to be tested to ensure end-to-end functionality. *Testing Steps* 1. Launch the Application. 2. Start the network access from the Application. 3. Put the phone in a place where there connection will be lost or select Airplane Mode. 4. Observe the result. *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.		
Result of Test ☐ **PASS** ☐ **FAIL** **This test is not applicable where...** ☐ The Application does not use Network Connection.		

3.3 Network connectivity – Airplane mode

Test ID	Test Title	Critical
3.3	**Network connectivity - Airplane mode**	

Test Description
When the Application uses network capabilities, it must be able to handle the device being in Airplane mode

Required for:
Application that uses Network Connection.

Testing Note
Where the application uses a different application to perform the data transfer e.g. Facebook, Flickr etc. it still needs to be tested to ensure end-to-end functionality.
Testing Steps
1. Set the device to Airplane mode
2. Start the Application.
3. Observe the result.
RESULT:
The Application will give a meaningful error message to indicate that the device is in Airplane mode and the application cannot run successfully.
Any game should function correctly without online access, or report the status and return to the previous state.

Result of Test
☐ **PASS**   ☐ **FAIL**
This test is not applicable where...
☐ The Application does not use Network Connection.

3.4 Network connectivity - resource downloading

Test ID **3.4**	Test Title **Network connectivity - resource downloading (pause and resume)**	**Critical**

Test Description
When the Application uses network capabilities to download resource files it must be able to handle pause and resume and interruptions to downloads

Required for:
Application which uses downloadable resource files

Testing Note
Where the application uses a different application to perform the data transfer e.g. Facebook, Flickr etc. it still needs to be tested to ensure end-to-end functionality. The application/Game should warn the user if the download would be large (exceeding 1MByte). The user must have a chance to cancel the download. NB. Resources cannot be considered as 'code' *Testing Steps* Start the Application. Start a resource file download Pause the download if possible Restart the download Drop the network connection Recreate the network connection Resume/restart the download *RESULT:* The Application will gracefully handle the pausing, stopping and resumption of resource file downloads.

Result of Test
☐ **PASS**　　　　☐ **FAIL** **This test is not applicable where...** ☐ The Application does not use downloadable resource files.

4   Event Handling

4.1   Not Applicable

4.2   Not Applicable

4.3   Timed event expiry

Test ID **4.3**	Test Title **Timed Event – Expiry during Application run**	**Critical**
Test Description **Ensure that the Application behaves correctly on expiry of a timed event while the Application is running.**		
Required for: **Application that uses timed events.**		
Testing Note *Testing Steps* 1. Set a timed event in the Application for a specific "future" time 2. Keep the Application in an active state. 3. Allow the "future" time to pass. *RESULT:* Ensure that Application reacts correctly once the designated time has expired.		
Result of Test ☐ **PASS** ☐ **FAIL** **This test is not applicable where...** ☐ The Application does not use timed events.		

4.4 Timed event expiry during suspend

Test ID **4.4**	Test Title **Timed Event – Expiry during Application suspend**	**Critical**
Test Description **Ensure that the Application resumes correctly from a suspended state on expiry of a timed event.**		
Required for: **Application that uses timed events.**		

Testing Note
 	
Testing Steps
    1. Set a timed event in the Application for a specific "future" time
    2. Suspend the Application (single click on the home key)
    3. Allow the "future" time to pass.
 	
    RESULT:
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 ☐ **PASS** ☐ **FAIL** **This test is not applicable where...** ☐ The Application does not use timed events.		

4.5 Timed event expiry during application exit

Test ID 4.5	Test Title Timed Event – Expiry during Application exit	Critical
Test Description **Ensure that the Application starts correctly from an exited state on expiry of a timed event.**		
Required for: **Application that uses timed events.**		

Testing Note
 	
Testing Steps
    1. Set a timed event in the Application for a specific time
    2. Exit the Application (double click on the home key)
 	
    RESULT:
    1. Application starts, or user is presented with a start option once the designated time has expired.
    2. Application behaves correctly when started.		

Result of Test ☐ **PASS** ☐ **FAIL** **This test is not applicable where...** ☐ The Application does not use timed events.		

5 Messaging & calls

5.1 Send

Test ID	Test Title	Critical
5.1	Message – Send	

Test Description
Ensure that the Application can send messages successfully.

Required for:
Application that sends SMS or MMS messages as part of its function.

Testing Note

Testing Steps
    1. Launch Application.
    2. Send a message from the Application to another handset
    3. If both SMS and MMS are supported, test both formats.
 	
    RESULT:
    1. Notification of new message is given where enabled on the receiving handset.
    2. Message is in the correct format, and for MMS contains the correct payload.

Result of Test
☐ **PASS**   ☐ **FAIL** **This test is not applicable where...** ☐ The Application does not send messages as part of its function.

5.2 Receive

Test ID 5.2	Test Title Message – Receive	Critical

Test Description
Ensure that the Application can receive messages successfully.

Required for:
Application that receives SMS or MMS messages as part of its function.

Testing Note
Testing Steps 1. Launch the Application (with sound on). 2. Compose message at another phone and send it to the test handset 3. If the application supports both SMS and MMS, test both formats. *RESULT:* 1. Notification of new message is given where enabled on the receiving handset. 2. Message is in the correct format, and for MMS contains the correct payload.

Result of Test
☐ **PASS**　　　☐ **FAIL** **This test is not applicable where...** ☐ The Application does not receive messages as part of its function.

5.3 Incoming call

Test ID **5.3**	Test Title **Telephone call – incoming while application in use**	**Critical**

Test Description
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:
All applications.

Testing Note

Testing Steps
     1. While Application is running, make an incoming call to the test handset.
     2. Accept the incoming call.
     3. End the incoming call.
     4. Return to the Application.
 	
     RESULT:
1. The incoming call dialog is shown.
2. After the call is taken and ended, the Application should resume to either the point of interruption, or a point that neither inconveniences the user nor causes data loss.

Result of Test
☐ **PASS**　　　　☐ **FAIL**

6 External Influence

6.1 Not Applicable

6.2 Not Applicable

6.3 Interruptions

Test ID **6.3**	Test Title **Interruptions**	**Warning**
Test Description **Check that the application continues to function through interruptions**		
Required for: **All Applications. Some Interrupts may not apply (e.g. NFC) if the Device is not so equipped.**		
Testing Note Test the following interruptions during normal operation of the app *Testing Steps* 1. Launch the Application. 2. Connect the device by USB to a computer (PC / Mac) 3. Disconnect the device USB from the computer 4. Connect wall charger and observe charging indication 5. Receive a file/picture via Bluetooth from another device 6. Receive incoming email to device 7. Alarm clock alarm 8. Low battery notification 9. Charging notification after low battery notification 10. Connect a wired headset – check that the audio transfers correctly 11. Disconnect a wired headset 12. Receive an incoming contact via NFC from another device *RESULT:* 1. The Application should work correctly throughout .		
Result of Test ☐ **Pass**　　☐ **Annoying**　　☐ **Difficult**　　☐ **Impossible**		

7 User Interface

7.1 Readability

Test ID **7.1**	*Test Title* **Readability**	**Warning**
Test Description **Ensure that the application content is readable.**		
Required for: **Applications on all devices with user display.** *Not Required for:* **Devices without user display.**		

Testing Note

An exception to the requirement for naked-eye legibility may be made where the applications allows a high level graphical view of an item (e.g. 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.

Testing must include any subtitles used, which must be readable and in-synch with any audio.

Testing Steps

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.

RESULT:

The application content should be readable. If there are issues they should be graded according to the scale in the results box.

Result of Test

☐ **Pass**　　☐ **Annoying**　　☐ **Difficult**　　☐ **Impossible**

This test is not applicable where...

☐ **The Device does not have user display**

7.2   Read time

Test ID 7.2	Test Title UI – Read time	Warning
Test Description **Comfortable time for content reading.**		
Required for: **All applications.**		
Testing Note

Testing Steps
    Use the application, moving between screens.

    RESULT:
    Each screen must be visible for the time necessary to comfortably read all its information. If the screen is not visible for an appropriate time the issue should be graded. | | |
| Result of Test

☐ **Pass**   ☐ **Annoying**   ☐ **Difficult**   ☐ **Impossible** | | |

7.3 Screen repainting

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

7.4   Consistency

Test ID 7.4	Test Title UI - Consistency	Warning
Test Description **UI consistency.**		
Required for: **All applications.**		
Testing Note *Testing Steps* Use the application, moving between screens. *RESULT:* 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 ☐ **Pass** ☐ **Annoying** ☐ **Difficult** ☐ **Impossible**		

7.5 Key layout ease of use

Test ID 7.5	Test Title UI – Key layout ease of use	Warning

Test Description
Key layout ease of use.

Required for:
All Apps.

Testing Note
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.   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.   3. touch screen elements are easy to use and the touch area is not too small   *Testing Steps*   Use the application, moving between screens.   *RESULT:*   1. The buttons should be easy to use.   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
☐ **Pass**   ☐ **Annoying**   ☐ **Difficult**   ☐ **Impossible**

7.6 Application speed

Test ID **7.6**	Test Title **UI - Application speed**	**Warning**
Test Description **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: **All applications.**		
Testing Note 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. Testing Steps 1. Use the Application. 2. Observe how fast the Application is to use, and if it is too slow or too fast in its operation for good usability. 3. If the Application behavior is incontrollable due to its speed, please report such findings. *RESULT:* 1. The Application is usable on the device. 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 ☐ **Pass** ☐ **Annoying** ☐ **Difficult** ☐ **Impossible**		

7.7   Error messages

Test ID 7.7	Test Title UI – Error messages	Warning
Test Description Error messages.		
Required for: All applications.		
Testing Note This case applies to all error messages observed whilst testing the application. If the app or game uses a proprietary licence scheme, and it is possible to cause the check to fail, the error message must be clear. Error messages caused during connection failure must be clear. **Testing Steps** Use the application, moving between screens. *RESULT:* 1. Any error messages in the Application must be clearly understandable. 2. Error messages must clearly explain to a user the nature of the problem, and indicate what action needs to be taken (where appropriate), it should not display technical terms and should be understandable by general public		
Result of Test ☐ **Pass** ☐ **Annoying** ☐ **Difficult** ☐ **Impossible**		

7.8 Function progress

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

7.9 Actions while rendering

Test ID **7.9**	Test Title **UI – Actions while rendering**	**Warning**
Test Description **Application must not perform inappropriate actions while thinking or rendering**		
Required for: **All applications.**		
Testing Note _Testing Steps_ Make user input while the Application or handset is busy processing or rendering. _RESULT:_ There must be no inappropriate reaction by the Application.		
Result of Test ☐ **Pass**　　☐ **Annoying**　　☐ **Difficult**　　☐ **Impossible**		

7.10 Multiple display format handling

Test ID **7.10**	Test Title **UI – Multiple Display Format Handling**	**Warning**
Test Description **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: **Applications that support multiple display formats, on device with multiple display format support.**		
Testing Note *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.* *If the device has a physical keypad on the long side of the device, the application must support landscape mode.*		
Testing Steps Operate the Application and make use of all available display formats in multiple functions. *RESULT:* The Application should display correctly without obvious errors in all formats. The Application should switch correctly between the display orientations		
Result of Test ☐ **Pass**　　　☐ **Annoying**　　　☐ **Difficult**　　　☐ **Impossible** **This test is not applicable where...** ☐ **The Device does not support multiple display formats.** ☐ **The Application does not support multiple display formats by design.**		

7.11 Differing screen sizes

Test ID **7.11**	Test Title **UI – Differing screen sizes**	**Warning**
Test Description **Where the application is designed to work on multiple devices it must be able to display correctly on differing screen sizes**		
Required for: **Applications that support multiple devices**		
Testing Note *For this test, a failure would be the inability to display correctly on devices with different screen size..* *Testing Steps* Operate the Application on two devices with differing screen sizes. *RESULT:* The Application should display correctly without obvious errors. The Application should use the whole of the screen area An iPhone app should display correctly on an iPad display (original resolution or double resolution)		
Result of Test ☐ **Pass**　　☐ **Annoying**　　☐ **Difficult**　　☐ **Impossible** **This test is not applicable where...** ☐ **The Application is targeted at a single device only with some specific functional reason**		

7.12 Multiple format input handling

Test ID 7.12	Test Title UI – Multiple Format Input Handling	Critical
Test Description	**Where the device and application can accept input in multiple formats (e.g. external touch screen / external keypad / internal touch screen / internal keypad / QWERTY layout / 12-key layout and others), the application must work correctly with all supported input methods.**	
Required for:	**Applications that support multiple input formats, on device with multiple input format support.**	
Not required for:	**1. Device that does not have multiple input formats;** **2. Applications that do not support multiple input formats, regardless of device support.**	
Testing Note	*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.* *Testing should cover detachable or wireless keyboard or relevant external control.*	
Testing Steps	Operate the Application and make use of all input methods in all functions. *RESULT:* The Application should accept input correctly in all supported formats.	

Result of Test

☐ **PASS**   ☐ **FAIL**

This test is not applicable where...

☐ **The Device does not support multiple input formats.**

☐ **The Application does not support multiple input formats by design.**

7.13 Accelerometer/motion sensor responses

Test ID **7.13**	Test Title **UI – Accelerometer / Motion Sensor Responses**	**Warning**

Test Description
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:
All Applications, except where both device and Application lack accelerometer / motion sensor support.

Not required for:
Application where both it and the device lack accelerometer / motion sensor support.

Testing Note
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. 2. Minor hesitations or inaccuracies are permissible. To fail, the problems must be serious enough to make it difficult to use the application. 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.

Testing Steps
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. *RESULT:* 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
☐ **Pass**　　　☐ **Annoying**　　　☐ **Difficult**　　　☐ **Impossible** **This test is not applicable where...** ☐ **Device not equipped with accelerometer / motion sensor and application does not make use of accelerometer / motion sensor.**

7.14 Spelling errors

Test ID **7.14**	Test Title **UI - Spelling errors**	**Warning**
Test Description		
The Application must be free of spelling errors.		
Required for:		
All applications.		

Testing Note

1. A spelling error is defined as a strict misspelling of a word (no grammar or punctuation rules will be applied). Missing diacritics and accents (e.g. acute accents, cedillas, umlauts etc.) will not be reported as spelling errors.
2. The tester will perform the test as specified below, but the developer must ensure that this requirement is fulfilled throughout the Application.
3. In all cases, spelling shall be acceptable if it conforms to the norm for a selected language or location.
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.

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:
No spelling errors must be present in the defined areas.

Result of Test

☐ **Pass**   ☐ **Annoying**   ☐ **Difficult**   ☐ **Impossible**

7.15 Technical text errors

Test ID **7.15**	Test Title **UI - Technical text errors**	**Warning**

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**   ☐ **Annoying**   ☐ **Difficult**   ☐ **Impossible**

8　Language

8.1　Correct operation

Test ID **8.1**	Test Title **Language – Correct operation**	**Warning**
Test Description **Ensure that the Application works correctly with all appropriate languages.**		
Required for: **All applications.**		
Testing Note 　　1. Translation table with all text used in UI should be provided to Test team before testing starts. 　　2. Some sales channels insist on English support. Tester to note if app doesn't support English. Testing Steps 　　1. If handset supports more than one language, set handset to a language not already tested. 　　2. Launch the Application and perform brief testing with aim to go through all possible screens, menu, and messages. 　　3. If Application specifies that it supports the selected handset language, ensure displays are appropriate for each supported language. 　　4. Exit the Application 　　5. Repeat steps 1 to 4 for each supported language. 　　*RESULT:* 　　1. All text content is rendered in the correct/expected language. 　　2. Ensure Application detects correct language and renders content as appropriate (if applicable).		
Result of Test ☐ **Pass**　　　☐ **Annoying**　　　☐ **Difficult**　　　☐ **Impossible**		

8.2 Manual selection

Test ID **8.2**	Test Title **Language – Manual selection**	**Critical**
Test Description **Ensure that the Application properly allows selection of languages where available.**		
Required for: **Application that allows selection of languages within the Application.**		
Testing Note *Testing Steps* 1. Set Application to each language using language selection facility of the Application. 2. Perform brief testing. *RESULT:* 1. User is able to select all desired languages. 2. All text content is rendered in the correct/expected language.		
Result of Test ☐ **PASS**　　　☐ **FAIL** **This test is not applicable where...** ☐ **The Application does not permit selection of languages.**		

8.3 Supported formats

Test ID **8.3**	Test Title **Language – Supported formats**	Warning
Test Description **Ensure that the Application supports all date/time/numeric/currency features for supported languages**		
Required for: **All applications.**		
Testing Note *Testing Steps* 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. *RESULT:* All text content relating to date/time/numeric/currency fields are rendered in the correct/expected language format.		
Result of Test ☐ **Pass** ☐ **Annoying** ☐ **Difficult** ☐ **Impossible**		

8.4   International characters

Test ID **8.4**	Test Title **Language – International characters**	**Warning**
Test Description **Ensure that the Application accepts and displays all appropriate international characters correctly.**		
Required for: **All applications.**		
Testing Note Test both keypad text input and any other input method (e.g. in game non-native key input) *Testing Steps* Verify that all data entry fields accept and properly display all International characters for supported languages. *RESULT:* All international text characters are rendered in the correct/expected language.		
Result of Test ☐ **Pass** ☐ **Annoying** ☐ **Difficult** ☐ **Impossible**		

9 Performance

9.1 Suspend/resume from main menu

Test ID **9.1**	Test Title **Suspend / resume from main menu**	**Critical**
Test Description **Ensure that the Application suspends when at the Application main menu.**		
Required for: **All applications.**		
Testing Note *See test 9.3 for nested testing* Testing Steps 1. Launch the Application. 2. Go to the main menu of the Application. 3. Suspend the Application (e.g. press the home key) 4. Check that device services are available (make a call, send a text, use the camera, play music) 5. Resume the Application *RESULT:* Application should suspend and resume correctly, and resume at a point that does not impair the user experience.		
Result of Test ☐ **PASS**　　　　☐ **FAIL**		

9.2 Suspend while executing

Test ID **9.2**	Test Title **Suspend while executing**	**Critical**
Test Description **Check for Suspend in the middle of Application execution.**		
Required for: **All applications.**		

Testing Note
See test 9.3 for nested testing
 	
Testing Steps
     1. Launch the Application.
     2. During Application execution, suspend the Application (e.g. press the home key)
     3. Check all device keys are released for use including any special keys such as game controllers.
     4. Check that the audio is release for use by other apps, such as video or music.
     5 Change the audio level
     6. Resume the Application
 	
     RESULT:
Application should suspend and resume correctly, and resume at a point that does not impair the user experience.		

Result of Test ☐ **PASS** ☐ **FAIL**		

9.3   Resume

Test ID **9.3**	Test Title **Resume**	**Critical**
Test Description **Ensure that the Application resumes correctly.**		
Required for: **All applications.**		
Testing Note 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. Testing Steps 1. Perform **Suspend / resume from main menu (test 9.1)** 2. Resume the Application 4. Perform **Suspend while executing (test 9.2)** **5. Check that the audio settings revert to the game settings having changed them in test 9.2** 6. Repeat step 2. *RESULT:* The Application resumes to the point where it was suspended, or to a point that does not impair the user experience.		
Result of Test ☐ **PASS** ☐ **FAIL**		

9.4 Background Running (was 'Influence on terminal system features')

Test ID **9.4**	*Test Title* **Background Running Task**	**Critical**
Test Description **When switched to run in the background, the application must not impact any system features or other applications unless designed to do so.**		
Required for: **Application which is written to run as a Background task / Service.**		

Testing Note

The application must correctly handle situations where it is switched to the background by the terminal (e.g. upon receiving a phone call). 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.
1. In this test the application needs to be switched between background and foreground. The actual method used depends on the device
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.
3. The application description must describe any activity whilst in the background.

Testing Steps

1. Launch the Application.
2. Familiarize yourself with the help file.
3. Switch Application to background 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. Verify that the device and Applications can still be used normally, or that the Application's help facility 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). Check the various features (Phone Application, Calendar, Clock, Contacts, Browser, etc.). In particular try the following:
  - make a voice call, a video call (if supported by terminal)
  - send an SMS message, send an MMS message, open a WEB page,
  - start a streaming session using a WEB browser or media player.
5. Switch the Application back to the foreground.
6. Verify that the Application operates normally by using it for a time period of 5 minutes.

RESULT:
1. Terminal's system features and Applications can be used normally
2. Any changes to normal use are explained in the help facility
3. When back in the foreground, the application continues to operate normally.

Test ID	Test Title	
9.4	**Background Running Task**	**Critical**

Result of Test

☐ **PASS**　　　☐ **FAIL**

This test is not applicable where...

☐ **The Application is not written to run in the background.**

9.5 Resource sharing - database

Test ID	Test Title	Critical
9.5	Resource Sharing – Database	

Test Description
> **Check that database resources are properly shared between Application and a competing Application.**

Required for:
> **Applications that make use of Contacts database.**

Not required for:
> **Applications that do not make use of Contacts database.**

Testing Note
> Application under test should not be the device native Contacts application.

Testing Steps
> 1. Launch the Application.
> 2. Suspend Application
> 3. Launch the device Contacts application
> 4. Add a new entry into contacts.
> 5. Remove an existing entry from contacts.
> 6. Resume the Application under test
> 7. Check Application state.
>
> *RESULT:*
> 1. Application should continue from the previous state prior to being suspended.
> 2. Application should see the new entry and the deleted entry.

Result of Test

☐ **PASS**   ☐ **FAIL**

☐ **The Application does not use Contacts database.**

9.6 Restore device settings on exit

Test ID **9.6**	Test Title **Restore Device settings on exit**	Warning

Test Description
Check that app does not permanently change any settings on the device

Required for:
All Applications that allow settings to be changed inside the app

Testing Note
The application must have an exit option, either an explicit menu item, or through the home key to exit. Exit confirmation box is optional. *Testing Steps* 1. Launch the Application with known setting. 2. Change settings such as volume, screen orientation, language using the app's menu if possible 3. Exit the Application under test 4. Check settings on device are as they were before the application was launched. *RESULT:* 1. Device settings should be restored to original settings.

Result of Test
☐ **Pass**   ☐ **Annoying**   ☐ **Difficult**   ☐ **Impossible** **This test is not applicable where...** ☐ **The Application does not have any local settings options.**

10 Media

10.1 Application mute option

Test ID 10.1	Test Title Application mute option	Warning
Test Description	**Ensure that the Application has a Mute or Sound On / Off setting.**	
Required for:	**Applications with sound settings.**	

Testing Note

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.

Testing Steps

1 Use the application and note the effects of either muting the device via the device volume controls or via a menu setting.

2 Use the in application menu option to change the audio and check that changing audio settings functions as intended.

3 The user should be able to set:

- the volume of the game music
- the volume of the game sfx
- the volume of any other game related sounds

RESULT:
Application must provide a means of muting background music and / or sound effects.

Result of Test

☐ **Pass**   ☐ **Annoying**   ☐ **Difficult**   ☐ **Impossible**

This test is not applicable where...

☐ **The Application does not have Application mute facility by design.**

☐ **The Application does not have any settings options.**

10.2 Settings statuses understandable

Test ID 10.2	Test Title Settings statuses understandable	Warning
Test Description		
Ensure that the Application settings statuses are easily understandable.		
Required for:		
Applications that have Settings options.		

Testing Note

Testing Steps
1. Start the application.
2. Change the status of settings

RESULT:
The current status of each setting must be easily understood.

  The default audio volume is about 50% of the maximum volume supported by the game or less

Result of Test

☐ **Pass**   ☐ **Annoying**   ☐ **Difficult**   ☐ **Impossible**

This test is not applicable where...

☐ **The Application does not have any settings options.**

10.3 Settings do not impair application

Test ID 10.3	Test Title Settings do not impair Application	Warning
Test Description The status of the Application settings does not impair the Application functionality.		
Required for: Applications that have Settings options.		
Testing Note *Testing Steps* 1. Start the application 2. Change settings 3. Observe the result. *RESULT:* 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 ☐ **Pass** ☐ **Annoying** ☐ **Difficult** ☐ **Impossible** **This test is not applicable where...** ☐ **The Application does not have any settings options.**		

10.4 Saving settings

Test ID **10.4**	Test Title **Saving settings**	**Warning**
Test Description **Ensure that the Application saves all settings on exit.**		
Required for: **Applications that have Settings or save game state options.** *Not required for:* **1. Applications that do not have Settings options;** **2. Applications that do not save changes to Settings by design.**		

Testing Note

Testing Steps
1. Start the application
2. Change an item in settings
3. Exit and restart the application
4. Observe the setting status

  RESULT:

When an Application exits, all settings must be saved.
Restarting the Application will restore the saved settings.

When a game is ended, it shall automatically save its progress.

The following items should be saved and restored when the game is launched

again: status: game-specific progression information such as level reached,

latest checkpoint, etc. score and statistics as applicable to the game

---

Result of Test

☐ **Pass**　　　☐ **Annoying**　　　☐ **Difficult**　　　☐ **Impossible**

This test is not applicable where...

☐ **The Application does not have any settings options.**

☐ **The Application is declared not to save settings on close by design.**

10.5 Specific functions for sounds

Test ID **10.5**	Test Title **Specific functions for sounds**	**Warning**
Test Description **Ensure Application sounds have specific functions and are not over used.**		
Required for: **Applications with sound.**		
Testing Note *Testing Steps* Use the application and observe the sounds utilised *RESULT:* 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 ☐ **Pass** ☐ **Annoying** ☐ **Difficult** ☐ **Impossible** **This test is not applicable where...** ☐ **The Application does not have any sounds.**		

10.6 Vibrations

Test ID **10.6**	Test Title **Vibrations**	**Warning**

Test Description
Ensure Application vibration is controlled and is not over used.

Required for:
Applications with vibration.

Testing Note
Testing Steps Use the application and observe the vibration used. *RESULT:* The application must allow vibration to be enabled/disabled. Each sound should have a specific function, and should not be over used: As a general guideline, this includes: - using the vibration for short special effects only (e.g. not for the whole duration of a race — to simulate engine vibration for example) - not vibrating for extended periods of time or for longer than 10 seconds in a minute of gameplay - stopping the vibration after five seconds when there is no user input. The vibration can resume when user input is detected

Result of Test

☐ **Pass**   ☐ **Annoying**   ☐ **Difficult**   ☐ **Impossible**

This test is not applicable where...

☐ **The Application does not use vibration.**

11 Menu

11.1 Help and about

Test ID 11.1	Test Title Help & About items	Warning

Test Description
> **The Application should contain Help & About.**

Required for:
> **Applications with a user interface.**

Testing Note

1. Applications with a user interface should contain Help information, to explain to the user how the Application works; and About information, for the user to easily identify the exact version of the Application installed, the developer of the Application, and the developer contact details.

2. This test can be passed if the application contains "Help and About" information 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.

3. If the application's purpose requires network coverage to operate, then it is sufficient for the Help to be provided through a browser connection rather than being contained in the application. However 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.

4. 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.

Testing Steps
1. Start the application
2. Access the Help and About sections

RESULT:
1. **Help and About** information is found from the main menu or other easily found screen of the Application.
2. **About** area should contain the Application version number and author information.
3. **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.
4. **Help** must be accurate and consistent with the Application functionality and the handset specifics.

Result of Test
☐ **Pass**　　☐ **Annoying**　　☐ **Difficult**　　☐ **Impossible**

This test is not applicable where...

☐ **The 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	Test Title	Critical
11.2	**Valid actions**	

Test Description
Selected and/or changed Application items should invoke valid actions.

Required for:
All applications.

Testing Note

Usually a game's main menu should have at least the following functionality:

‑ Starting the game

‑ Playing online

‑ Options

‑ Exiting the game

 Other types of app may have other structures as appropriate

Testing Steps

      1.   Start and use application.

      2.   Observe the results.

RESULT:

All Application items that can be selected and/or changed by user, must invoke valid actions according with the Application Specifications

Result of Test

☐ **PASS**   ☐ **FAIL**

12 Functionality

12.1 Functionality sanity check

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

12.2 Application hidden features

Test ID 12.2	Test Title Application hidden features or content	Critical

Test Description

The Application does not introduce any hidden features, its functionality is consistent with the help and it does not harm the data on the device.

Required for:

All applications.

Testing Note

1. The tester will perform the test as specified above, but the developer must ensure that this requirement is fulfilled throughout the Application.
2. Allowable functions are:
   a. Cheat codes
   b. Unlocking the Application, for example from demo version to a full version.
3. The application must not use any public storage such as the gallery for images (or sounds or similar resources) without informing the user beforehand.
4. Hidden Content such as "Easter Eggs" must be separately declared and submitted (as required by some distribution channels).

Testing Steps

1. Install user's personal data to the device (for example calendar, contact, to-do, images, text files, documents, etc.).
2. Launch the Application.
3. Familiarise yourself with the help file.
4. Use the Application and all of its features for a time period of 15 minutes.
5. Compare the documented Application functionality to the features you find, and what is in the help file.
6. Check for hidden content declared in the documentation or located during game play.

RESULT:

1. All the features are introduced in the Help, the Application has no hidden features.
2. The data inserted to the device has not been corrupted.
3. The phone bill (or log) does not show any additional communication.
4. The phone bill (or log or data counter, if applicable) does not show an excessive amount of transferred data.
5. The other Applications in the device must run as they did before Application installation.

Result of Test

☐ **PASS**   ☐ **FAIL**

13 Keys

13.1 Scrolling in menus

Test ID 13.1	Test Title Scrolling in menus	Critical
Test Description **Scrolling in menus.**		
Required for: **Applications with user interaction.**		
Testing Note *Testing Steps* 1. Launch the Application. 2. Use the keypad or other navigation device to scroll vertically and (if applicable) horizontally in the Main menu item list. *RESULT:* This MUST scroll in the menu item list with no adverse effects on the Application.		
Result of Test ☐ **PASS** ☐ **FAIL** **This test is not applicable where...** ☐ **The Application does not have user interaction by design.**		

13.2 Text field scrolling

Test ID **13.2**	Test Title **Text field scrolling**	**Warning**
Test Description **Scrolling in text fields and About / Help screens.**		
Required for: **Applications with user interaction.**		

Testing Note
 	
Testing Steps
    1. Launch the Application.
    2. Use the scrolling functions of the keypad or other navigation device in a text dialog, for example: About and Help.
 	
    RESULT:
This should scroll vertically and (if applicable) horizontally in the dialog.		

Result of Test ☐ **Pass** ☐ **Annoying** ☐ **Difficult** ☐ **Impossible** **This test is not applicable where...** ☐ **The Application does not have user interaction by design.**		

13.3 Pause

Test ID **13.3**	Test Title **Pause**	**Critical**
Test Description		

Test 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.

Required for:

Applications requiring time-sensitive user interaction.

Testing Note

The developer is encouraged to use the available APIs for pause and continue methods.

Testing Steps

1. Launch 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 "un-paused".

RESULT:

1. The user can pause the Application and the pause feature must support an option to resume.
2. All time-specific features of the Application are disabled at the time of the pause.
3. There is a clear indication that the Application is in a paused state.
4. There is a clear indication how the user can return from the paused state.

Result of Test

☐ **PASS**   ☐ **FAIL**

This test is not applicable where...

☐ **The Application does not require immediate user intervention.**

☐ **The Application does not have user interaction by design.**

13.4 Simultaneous key presses or multiple touch

Test ID **13.4**	Test Title **Simultaneous key presses or multiple touch**	**Critical**

Test Description
Ensure that the Application copes with simultaneous key presses or multiple touch

Required for:
Applications with user interaction.

Testing Note

Testing Steps
    1. Launch the Application.
    2. Press combinations of keys simultaneously, from a selection of UP, DOWN, LEFT, RIGHT, CENTER and all other available keys or use multiple touch combinations. Do not use any that intentionally terminate or exit the application, or intentionally launch a function that would invalidate the test.
 	
    RESULT:
    The Application should not be put into an unusable or incomprehensible state by simultaneous key presses or multiple touches. Any error messages generated should be meaningful.

Result of Test
☐ **PASS**   ☐ **FAIL** **This test is not applicable where...** ☐ **The Application does not have user interaction by design.**

13.5 Multi key presses or multi touch

Test ID **13.5**	Test Title **Multi key presses or multi touch**	**Critical**
Test Description **If device and application support multi key press operation, these should perform as expected.**		
Required for: **Application that supports multi key press or multi touch actions, on device that also supports this.**		

Testing Note
 	
Testing Steps
    1. Launch the Application.
    2. Use the multi key press or multi touch actions as documented by the developer in the Help, or documented separately.
 	
    RESULT:
All reactions to multi key presses or multi touch should be as predicted by the documentation and should not leave the Application in an unusable state.		

Result of Test ☐ **PASS** ☐ **FAIL** **This test is not applicable where...** ☐ **The Application does not have user interaction by design.** ☐ **The Application does not support multi key press or multi touch** ☐ **The Device does not support multi key press or multi touch**		

13.6 Device Keys

Test ID **13.6**	Test Title **Device Keys**	**Critical**

Test Description
Ensure that native device keys function as expected

Required for:
All Applications with a user interface

Testing Note
The app must not alter the function of the standard controls such as volume up/Down or ring/silent.

    Testing Steps
    1. Launch the Application
    2. Press the Home key at various stages during the application
    3. Press the Volume key(s) at various stages during the application
    4. Short press on the power key to suspend the app and lock the device
    5. Unlock the device and resume the app.
    6. Long press the power key and power off the device
    7. Power on the device and re-launch the application

    RESULT:
    Home key, short press to pause the application and return to home screen
    Home key, long press to start digital assistant
    Home key, double press to show recent applications list
    Power key, short press to pause the app and lock the screen
    Power key, long press to pause the app and power off the device

    .

Result of Test

☐ **PASS**   ☐ **FAIL**

This test is not applicable where...

☐ **The Application does not have user interaction by design.**

14 Device and Extra Hardware Specific Tests

14.1 Device close

Test ID 14.1	Test Title Device Close	Critical
Test Description **Ensure that the Application handles closing add on cover correctly while launching.**		
Required for: **All applications on devices with interactive add on cover (e.g. keyboard)**		
Testing Note *Testing Steps* 1. Launch the Application. 2. While the Application is launching (i.e. "Please wait" screen), close the device and then 3-4 times quickly open and close it. 3. Open the device. *RESULT:* The Application returns to the same state before the interruption.		
Result of Test ☐ **PASS** ☐ **FAIL** **This test is not applicable where...** ☐ **The Device does not have open / close functionality.**		

14.2 Device open

Test ID **14.2**	Test Title **Action – Device Open**	**Critical**
Test Description **Ensure that the Application handles add-on cover opening correctly.**		
Required for: **All applications on devices with interactive add on cover (e.g. keyboard)**		

Testing Note
 	
Testing Steps
    1. Launch the Application.
    2. Use the Application and its features.
    3. Close the device.
    4. Open the device.
 	
    RESULT:
The Application returns to the same state before the interruption.		

Result of Test ☐ **PASS**　　　☐ **FAIL** **This test is not applicable where...** ☐ **The Device does not have open / close functionality.**		

14.3 Device Consistent symbols and terminology

Test ID **14.3**	Test Title **Device Consistent symbols and terminology**	**Warning**
Test Description **The application or game uses symbols and terminology consistent with the special hardware built into the device or attachment**		
Required for: **Applications/games designed to work with devices with specialised hardware (such as a specific branded gamepad controller) or with a specific external attachment.** *Not Required for:* **Applications/Games not designed for such hardware.**		
Testing Note The application / game should adhere to the manufacturer's terminology and symbols *Testing Steps* 1. Launch the application / game 2. Check the menus and instructions for the keys labels and symbols *RESULT:* Consistent terminology and use of symbols tied into the specific hardware device elements		
Result of Test ☐ **Pass** ☐ **Annoying** ☐ **Difficult** ☐ **Impossible** **This test is not applicable where...** ☐ **The Application is not designed to work with such extra hardware.**		

14.4 Specialised hardware function

Test ID **14.4**	*Test Title* **Specialised hardware function**	**Warning**

Test Description
The application or Game works correctly with a specific external attachment.

Required for:
Applications/games designed to work with a specific external attachment.

Testing Note
> Branded controllers must work as per the brand standards.
> The test is applicable if the app/game says it supports such hardware.

Testing Steps
> 1. Launch the application/Game
> 2. Verify the behaviour of the specialised buttons or controller elements
> 3. Navigate through the menus using the specialised buttons or controller elements
> 4. If application/game supports re-configuration of the specialised buttons or controller elements, alter the configuration and re-check steps 2 and 3.
> 5. Check sensitivity of any touch components or positional components of the specialised buttons or controller
> 6. If appropriate, change the orientation of the device and repeat steps 2 and 3 in portrait/landscape orientation.

> *RESULT:*
> All functions work as expected

Result of Test

☐ **Pass**   ☐ **Annoying**   ☐ **Difficult**   ☐ **Impossible**

This test is not applicable where...

☐ **The Application is not designed to work with such extra hardware**

14.5 Additional features with special hardware

Test ID **14.5**	Test Title **Additional features with Special hardware**	**Warning**
Test Description **Additional features enabled in association with special hardware.**		
Required for: **Applications/games designed to work with extra hardware.**		

Testing Note
Additional features not usually available may be available when used in association with extra hardware when those features are dependant on the extra hardware.

Testing Steps
    Use app without extra hardware
    Observe functionality
    Use app in association with extra hardware
    Check new functionality is hardware specific

    RESULT:
    All functions work as expected

Result of Test

☐ **Pass**   ☐ **Annoying**   ☐ **Difficult**   ☐ **Impossible**

This test is not applicable where...

☐ **The Application is not designed to work with such extra hardware**

15 Stability

15.1 Application stability

Test ID **15.1**	Test Title **Stability – Application stability**	**Critical (if reproducible)**
Test Description **The Application must not crash or freeze at any time while running on the device.**		
Required for: **All applications.**		
Testing Note 1. During any time of the testing observe the Application behaviour. 2. The report must indicate if the error can be reproduced or not, and the steps to do so *Testing Steps* 1. Start to test the Application. 2. Observe the Application behaviour during the testing. *RESULT:* The Application must not freeze or exit unexpectedly at any time.		
Result of Test ☐ **PASS**　　　　☐ **FAIL**		

15.2 Application behaviour after forced close

Test ID **15.2**	Test Title **Stability – Application behaviour after forcible close by System**	**Critical**

Test Description
Application must preserve sufficient state information to cope with forcible close by the system.

Required for:
All applications.

Testing Note
If it is not possible to remove the device battery, a power cycle should be forced with the device power key instead. Testing Steps 1. Start the Application. 2. Exercise the functionality of the application, including any function that builds or saves information. 3. Press the Home key to return to the Home screen and ensure the application is switched into a paused state. 4. Remove the battery to instantly kill the application, as the system does when dealing with a low memory situation. 5. Restart the handset and open the application again. 6. Check the application is in a usable state and any information built or saved before the close has been retained. *RESULT:* 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
☐ **PASS**   ☐ **FAIL**

16 Data Handling

16.1 Save game state

Test ID **16.1**	Test Title **Save game state**	**Critical**
Test Description **Ensure that the Application can save its game state/high score table information into persistent memory.**		
Required for: **1. Application where user may exit part completed game;** **2. Application where a player high score value is identified.**		

Testing Note
 	
Testing Steps
    1. Launch the Application and start a game.
    2. Bring up the game menu and exit saving game position.
    3. Run Application again and continue game.
    4. Play game until a high score is obtained.
    5. Bring up game menu and check High score table.
    6. Exit Application and restart.
    7. Check high score table.
 	
    RESULT:
    1. Game state should be as was immediately prior to Application exit.
    2. The high score table should represent the scores recorded during the Application test.		

Result of Test ☐ **PASS** ☐ **FAIL** **This test is not applicable where...** ☐ **The Application does not have game state or high score elements.**		

16.2 Data deletion

Test ID 16.2	Test Title Data deletion	Critical

Test Description

The Application must indicate whether data will be permanently deleted or offer easy reversal of the deletion.

Required for:

Application that has function to delete data.

Testing Note

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.

Testing Steps

1. Launch the Application.
2. Use the function which deletes saved data from the Application.
3. Check if there is a reversal (undo) available for the user or that the user is notified before deletion is permanent.
4. Attempt to overwrite previously saved data (e.g. game state slot)

RESULT:

1. Before the data deletion, the Application notified the user of deletion, or the Application has an "undo" feature.
2. If "undo" is present it works as expected.
3. App should warn before overwriting previously saved data

Result of Test

☐ **PASS**   ☐ **FAIL**

This test is not applicable where...

☐ **The Application does not have function to delete data.**

16.3 Modify Record

Test ID **16.3**	Test Title **Modify Record**	**Critical**
Test Description **Ensure that the Application can modify its game state/high score table information into persistent memory.**		
Required for: **1. Application which may be exited part-way through game play;** **2. Application which identifies a user high score value.**		
Testing Note Repeating the save of game state and high score ensures that the values initially saved can be updated. *Testing Steps* Repeat test 16.1 above - **Save game state** *RESULT:* *Game state is saved/updated*		
Result of Test ☐ **PASS**　　　　☐ **FAIL** **This test is not applicable where...** ☐ **The Application does not have game state / high score elements.**		

16.4 Not Applicable

17 Security

17.1 Encryption

Test ID **17.1**	Test Title **Encryption**	**Critical**
Test Description **When connections are used encryption is used for sending / receiving sensitive data.**		
Required for: **Application identified as communicating sensitive data.**		
Testing Note All sensitive information (personal data, credit card & banking information etc.) must be encrypted during transmission over any network or communication link. *Testing Steps* 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. *RESULT:* It has been declared that the Application uses encryption when communicating sensitive data.		
Result of Test ☐ **PASS** ☐ **FAIL** **This test is not applicable where...** ☐ **The Application is stated not to communicate sensitive data.**		

17.2 Passwords

Test ID 17.2	Test Title Passwords	Critical

Test Description
Passwords and sensitive data are not stored in the device and not echoed when entered into the App, sensitive data is always protected by password.

Required for:
Application that uses passwords or other sensitive data.

Testing Note
1. With passwords the desired approach is that the app shows which character the user selected and then changes that to an asterisk (*).

2. If the user is explicitly asked for permission, a password can be stored to the device memory.

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

4. Once sensitive data has been entered, it should not be displayed in plain text anywhere in the app, 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.

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.

Testing Steps

1. Launch the Application.
2. Go to the section where passwords or other sensitive data (such as credit card details) is input or displayed.
3. Input or read some sensitive data. Observe how the data are displayed on the screen.
4. Exit the Application.
5. Launch the Application.
6. Go to the place where sensitive data was inserted or read.
7. See if the data is still visible, or can be redisplayed without requiring a password at any point.

RESULT:

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.
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.
3. Sensitive personal data should always need entry of a password before it can be accessed.

Test ID	Test Title	Critical
17.2	**Passwords**	

Result of Test

☐ **PASS**   ☐ **FAIL**

This test is not applicable where...

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

18 Multiplayer

18.1 Multiplayer Content

Test ID **18.1**	Test Title **Multiplayer Content**	**Critical**
Test Description **The application or Game works as expected in an online & multiplayer context.**		
Required for: **Applications/games with Multiplayer function**		

Testing Note
 	
Testing Steps
    1.   Launch the application/Game
    2   Access Online & Multiplayer content
    3   Use/Play the application/Game for a few minutes.
 	
RESULT:
Multiplayer functions work as expected		

Result of Test ☐ **PASS** ☐ **FAIL** **This test is not applicable where...** ☐ **The Application is not multiplayer.**		

18.2 Multiplayer- Adding and disconnecting Players

Test ID 18.2	Test Title Multiplayer – adding and disconnecting players	Critical
Test Description **The application or Game works as expected in an online & multiplayer context when adding new players, and when they leave.**		
Required for: **Applications/games with Multiplayer function**		

Testing Note

Testing Steps
1. Launch the application/game
2. Access Online & Multiplayer content
3. Have an additional player join in, if possible mid-game.
4. Use/Play the application/game for a few minutes.
5. Have the additional player leave the game using the game menu functions

RESULT:
Multiplayer functions work as expected

Result of Test

☐ **PASS**   ☐ **FAIL**

This test is not applicable where...

☐ **The Application is not multiplayer**

18.3 Multiplayer – Pause and disconnect Players

Test ID **18.3**	Test Title **Multiplayer – pause and disconnect Players**	**Critical**

Test Description
The application or Game works as expected in an online & multiplayer context.

Required for:
Applications/games with Multiplayer function

Testing Note
Testing Steps

      1.   Launch the application / game
      2.   Access Online & Multiplayer content
      3.   Use/Play the application/game for a few minutes.
      4.   Have an additional player join the game
      5.   One player to pause or suspend the game.
      6.   Continue to Use/Play the application/game.
      7.   Have the additional player destructively disconnect – e.g. remove the battery from the device

RESULT:
Multiplayer functions work as expected
Play continues when one player is paused (unless it is a turn based game)
Play continues when one player is abruptly removed from the game.

Result of Test

☐ **PASS**   ☐ **FAIL**

This test is not applicable where...

☐ **The Application is not multiplayer**

18.4 Multiplayer over Bluetooth

Test ID **18.4**	Test Title **Multiplayer over Bluetooth**	**Critical**
Test Description **The application or Game works as expected in an online & multiplayer context.**		
Required for: **Applications/games with Multiplayer function** Not Required for: **Applications/Games with no Multiplayer function**		

Testing Note
 	
Testing Steps
    1.   Launch the application/Game
    2.   Have a second player join using Bluetooth
    3.   Play for as few minutes
    4.   Move the two devices out of range so that the Bluetooth link drops
 	
  RESULT:
  Multiplayer functions work as expected
  Bluetooth connection failure should be notified to the user, and the game should recover.		

Result of Test ☐ **PASS** ☐ **FAIL** **This test is not applicable where...** ☐ **The Application is not multiplayer**		

19 Metadata

19.1 App Metadata

Test ID **19.1**	Test Title **App Metadata**	**Critical**

Test Description
Ensure that the Application metadata complies with the platform requirements.

Required for:
All Applications

Testing Note
Data provided for the shop and the app must be cross checked for consistency

Testing Steps
    1. Obtain shop metadata and the installed app.

    RESULT:
1. The description must be for this platform and not generic
2. There must not be any placeholder text in the description (e.g. lorum ipsum..)
3. The description of the app must match the app content and its functionality
4. The name of the app when installed must match the name in the description
5. All Icons (large and small) must be similar in appearance and match the style required
6. All icons and screenshots must be suitable for any age
7. The Category and Genre must match the app content and functionality
8. The age rating supplied must be suitable for the App and content
9. Any keywords must match the app content and functionality
10. All URLs must be live and working
11. The app should not be named Beta, Trial, Demo or Test

Result of Test

☐ **PASS**   ☐ **FAIL**

20 Privacy and User Permissions

20.1 Privacy

Test ID **20.1**	Test Title **Privacy Policy**	**Critical**
Test Description **The app must state and comply with a Privacy Policy and Privacy best practice**		
Required for: **All Applications**		

Testing Note
 	
If the application holds or accesses personal data there must be an associated privacy statement.
 	
The application must obtain permission from the user to send, share or store any personal data.
The app should work without requiring private data to be shared.
 	
The use of personal data must be part of the principle function of the app, and the user's consent for any additional uses must be explicitly obtained.
 	
Testing Steps
    1. Start application
    2. Check the metadata for privacy statement
    3. Check help, about, settings menus for privacy statement
    4. Check settings menu for sharing controls
    4. Explicit controls must allow sharing or hiding of data
    If the app uses a social networking login, then it must offer granular controls for information sharing.
 	
  RESULT:
  Pass if no personal data is stored or shared
  Pass if the privacy policy and controls correspond and the application function complies with the stated policy.
  Fail if there is personal data held and no privacy statement.		

Result of Test ☐ **PASS** ☐ **FAIL**		

20.2 Location Permissions

Test ID 20.2	Test Title **Location Permissions**	**Critical**

Test Description
The app must ask for permission to use location data

Required for:
All Applications that use location data

Testing Note

The app must notify the user before collecting, storing or transmitting the device location data.

Use of the location data must be relevant to the function of the app.

The use of location for targeted advertising must be explicitly stated or the app must obtain the users permission.

Testing Steps
> *1. Check help and metadata for descriptions of the use of location data*
> *2. Launch application*
> *3. Use location features*
> *4. Check that app has asked permission to use location data*

> *RESULT:*
> *Application obtains user permission before using location data either explicitly or as stated in the app description in the metadata*

Result of Test

☐ **PASS**   ☐ **FAIL**

This test is not applicable where...

☐ **The Application does not use location data**

20.3 Push Notifications

Test ID 20.3	Test Title **Push notifications**	**Warning**
Test Description **The app uses push notifications effectively, if relevant**		
Required for: **Applications that use push notifications**		

Testing Note
The app must obtain the users permission before using any push notification. This can be explicit in the nature and description of the app.

Push notification must not directly contain personal data.

Push notifications must be as requested by the user. It must not be 'spam' (i.e. direct marketing, advertising, promotional, unsolicited or malicious material)

On iOS push notifications must use the standard platform mechanism and must be free of charge for the user.

Testing Steps
1. Launch application
2. Check app permissions for push notification
3. Set-up push notifications
4 Check push notification contents

RESULT:
Check contents of push notifications are app related
Check notifications carry and display no sensitive data
Check no items appear on the associated bill for the device

Result of Test

☐ **Pass**   ☐ **Annoying**   ☐ **Difficult**   ☐ **Impossible**

This test is not applicable where...

☐ **The Application does not use push notification**

21 Platform Compliance for: In App Purchase, Advertising and Multiplayer Game Lobby

21.1 In-app purchase

Test ID **21.1**	Test Title **In-app Purchase**	**Warnng**
Test Description **The app must comply with store rules for in-app purchase**		
Required for: **All Applications that use in-app purchase**		

Testing Note
 	
Every in-app purchase must be made using the authorised store purchase mechanisms. This includes extra content, features, functions or services.
 	
Specific store and territory restrictions can apply to purchase of physical goods and services, credit, external currencies, insurance, lotteries and gambling. Such content must be explicitly checked against store rules
 	
Apps may not charge the user extra for access to built-in device capabilities (camera,GPS, compass etc.)
 	
Testing Steps
     1. Launch application
     2. Search for purchase opportunities
     3. Check that purchase items comply and that the above conditions comply
     4. Check that the charges on the bill agree with the changes accepted.
 	
     RESULT:
     In-app billing complies with the rules listed in these testing notes		

Result of Test ☐ **Pass** ☐ **Annoying** ☐ **Difficult** ☐ **Impossible**		

21.2 In-app adverts

Test ID **21.2**	Test Title **In-app Adverts**	**Warnng**
Test Description **The app must comply with advertising usage practice**		
Required for: **All Applications using advertising**		

Testing Note
 	
Apps must not contain empty advertising banners.
Advert banners must not overly disrupt the user experience, either by inappropriate placement on screen (obscuring critical controls or display) or by over use.
 	
Testing Steps
    1. Launch Application
    2. Navigate to screen with advertising
    3. Check that ad banners are not empty
 	
    RESULT:
    Add banners are used according to rules stated in these testing notes.		

Result of Test ☐ **Pass** ☐ **Annoying** ☐ **Difficult** ☐ **Impossible** **This test is not applicable where...** ☐ **The Application does not carry adverts**		

21.3 Multiplayer Game Lobby

Test ID 21.3	Test Title **Use of Multiplayer Game Lobby**	**Warnng**
Test Description **The app must not misuse the multiplayer game lobby (Apple Game Centre)**		
Required for: **All games using the multiplayer game lobby**		

Testing Note

The app must not disclose any underlying system player identity to users or third parties, all identity must be shown using the players chosen tag or nickname.

The app must not send unsolicited or spam messages through the game lobby

Testing Steps
1. Launch application through the multiplayer game lobby
2. Play game and register a score
3. Check that player name is correct where displayed
4. Check that no unsolicited messages are received

RESULT:
Check that the use of multiplayer game lobby complies with the rules in these testing notes.

Result of Test

☐ **Pass**   ☐ **Annoying**   ☐ **Difficult**   ☐ **Impossible**
This test is not applicable where...

☐ **The Application does not use Game Centre**

21.4 In-app subscription and rental

Test ID **21.4**	Test Title **In-app subscription and rental**	**Warnng**
Test Description **The app must comply with store rules on subscription and rental models.**		
Required for: **All Applications that use subscriptions or rental mechanisms**		

Testing Note
 	
Subscriptions must be done using in-app purchase or through authorised store mechanisms.
 	
Subscriptions must be realistic, have a reasonable duration (some weeks or months). The user must be able to choose to renew or cancel the subscription with an obvious and clear menu item or setting control. Automatic renewal must be explicitly stated for the user.
 	
Apps must not mimic subscriptions by being time limited, i.e. the app purchase mimics rental of the app.
 	
Testing Steps
    1. Launch application
    2. Check the options for subscription and rental
    3. Check for a stated application expiry date
 	
    RESULT:
    Check that the use of subscriptions and rental complies with the rules in these testing notes.		

Result of Test ☐ **Pass** ☐ **Annoying** ☐ **Difficult** ☐ **Impossible** **This test is not applicable where...** ☐ **The Application does not contain subscriptions or rental**		

21.5 Charity and giving

Test ID **21.5**	Test Title **Charity and Giving**	**Warning**
Test Description **The app must comply with store rules on charitable donations**		
Required for: **All Applications that enable charitable donations**		

Testing Note

The Apple App store policies state that apps that include the ability to donate to charity must be free and that donations must be collected either by use of a chargeable SMS or using an external web site.

Testing Steps
  1. Launch application
  2. Check the options for donations
  3. Check for application purchase price in metadata

  RESULT:
   Check that donations and giving complies with the rules in these testing notes.

Result of Test

☐ **Pass**　　　☐ **Annoying**　　　☐ **Difficult**　　　☐ **Impossible**

This test is not applicable where...

☐ **The Application does not contain donations to charity**

22 Performance: Network and Battery usage

22.1 Network Performance

Test ID 22.1	Test Title Network Performance	Warning
Test Description **The app must not use excessive network resources**		
Required for: **All Applications.**		

Testing Note

Excessive use of push notifications, advertising or multiplayer game lobby interactions may indicate excessive network use.

Audio streaming must recognise different network connections (WiFi, 2G, 3G, 4G) and must limit duration and data consumption (guidance level of 5 minutes or 5 Mbytes as a maximum)

Video streaming must recognise the different network connections (WiFi, 2G, 3G, 4G) and adopt a suitable configuration and limit the duration and data consumption (guidance level of 10 minutes and audio limited to 64Kbps)

A first impression of network performance can be gained without the use of specific tools.
However tools do exist to measure the network performance characteristics and the AT&T App Resource Optimiser tool is recommended for this test.

Testing Steps
1. Launch the application
2. Set application to use every option possible for push notification
3. Check numbers of notifications
4. For games in the multiplayer games lobby, set game options to use every possible message or notification
5. Check the amount of messages and notifications
6. If audio streaming is used – check durations of streaming
7. If video streaming is used – check the duration of streaming
8. For streaming checks, check the volumes of data on the device bill or log.

RESULT:
App complies with testing notes
If the traffic appears excessive (subjective experience judgement): Refer the developer to technical tools

Result of Test

☐ **Pass**　　☐ **Annoying**　　☐ **Difficult**　　☐ **Impossible**

22.2 Battery Performance

Test ID **22.2**	Test Title **Battery Performance**	**Warning**
Test Description **The app must not drain the battery unduly**		
Required for: **All Applications**		

Testing Note
 	
Apps must not rapidly drain the battery or cause the device to get excessively hot.
 	
A first impression of battery performance can be gained without the use of specific tools.
However tools do exist to measure the battery performance characteristics and the AT&T App Resource Optimiser tool is recommended for this test.
 	
Testing Steps
    1. Check the battery status
    2. Launch the application
    3. Use the application for a period of time. (15 minutes)
    4. Check the battery status
    5. Check the temperature of the device
    5. If perceptible battery drain, or if the device feels perceptibly warm to the touch, then continue using the app for another 20 minutes
    6. Check the battery status and device temperature.
 	
    RESULT:
    If the battery drain is excessive (subjective experience judgement) or the device is uncomfortable to hold: Refer the developer to technical tools		

Result of Test ☐ **Pass** ☐ **Annoying** ☐ **Difficult** ☐ **Impossible**		

Version control

Version	Date	Changes made
V1.0	October 2013	Initial Release