# TIZEN STORE

# TOP 5 Defects & Tips

# Introduction

This document is to serve as an official standard regarding the Validation of Tizen applications. It explains in detail what types of defects are frequently detected during validation. Please refer to the latest version of the document.

## Purpose

The purposes of this document to introduce top 5 validation issues that may result in validation reject. This document can help developers to escape from getting rejected from validation by providing defects in real cases and tips to avoid reproducing them.

## Scope

This document covers Tizen application validation based on the Tizen Validation Guide.

# Top 10 Certification Failures and Tips
## 1.1 Icon Problems

**29.6%**
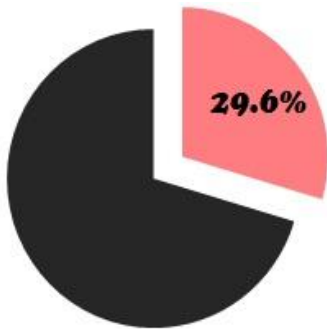
Not in compliance with the following Validation guidelines.

• 3.1.12 The main icon represents the application and it is recommended to be a circular shape.

• 3.2.1 Icon, screenshot, description, supported language and tag in the Tizen Store should be consistent with those installed on device

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**Defect Examples**

| Registered Icon | Launching Icon |
|---|---|
| | |

1. Mischoice of Icon itself, shape and size.
   1-1) **Icon Image:**
     - Defect: Icon is the default Tizen icon.
     - Solution: Seller should use own icon.
   1-2) **Icon Shape:**
     - Defect: Icon shape is not a circle.
     - Solution: Icon is recommended to be circled one.
   1-3) **Icon Size:**
     - Defect: Icon size is out of recommendations.
     - Solution: The launching icon is a circle one of 117px size.
       The registered icon is a circle one of 512px size.

2. Inconsistency of icon image and name.
   2-1) **Icon Image Inconsistency:**
     - Defect: Registered and launching icon images are different.
     - Solution: Registered and launching icon images should be same.
   2-2) **Icon name Inconsistency:**
     - Defect: Registered and launching icon names are different.
     - Solution: Registered and launching icon names should be same.

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**Self-check list**

▪ [I-2] Registered application name, icon, screenshots and supported language should be inconsistent

with installed one on device.
- [VI-2] Icon shape is recommended to be a circular one. And size for a mobile device which is shown on the real device is 117 x 117 pixels, and size for a store which is shown on the Tizen web site is 512 x 512 pixels.

**TIP to solve this issue:**

- Icon shape and size guideline:

  https://developer.tizen.org/documentation/ux-guide/visual-style/icons

## 1.2 App Privilege & Integrity
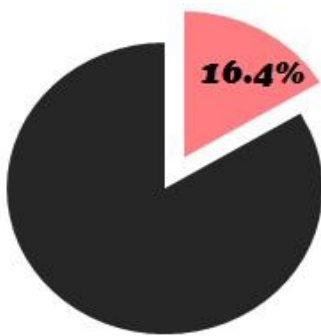
Not in compliance with the following Validation guidelines.

• 4.3.1 Application that uses a method of privilege that is not specified in the manifest file will be rejected.

• 4.3.2 Application that uses system privilege level without permission will be rejected.

• 4.3.3 Application that uses programming interface embedded in the official SDK but not specified as official Tizen API's shall be rejected.

• 4.3.4 Application that does not use any method of privilege defined in the manifest file will be rejected.

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**Defect Examples**

1. Privilege Problem.

   **1-1) Unused Privilege Problem.**
   - Defect: Application does not use some of methods belong to a defined privilege in the config.xml file.
   - Solution: Application should use all of methods belong to a defined privilege in the config.xml file.

   **1-2) Undefined Privilege Problem.**
   - Defect: Application uses undefined privilege in the config.xml file.
   - Solution: Application should not use unauthorized privilege in the config.xml file.

   **1-3) Privilege Violation Problem**
   - Defect: Application contains the privileged API of privilege group which is not specified in the manifest.xml file.

   - Solution: Check the privilege usage using the privilege checker tool in the IDE by selecting Project > Check privilege. Then checking results will be displayed as alarms.
     To resolve an alarm, click the annotation on the vertical ruler and select an entry from the proposal list. The required privilege is automatically added into config.xml file (for a quick fix, use the Ctrl+1 keyboard shortcut).

2. Author Signature does not exist.
   - Defect: Application package is not signed to identify the author of the application and to verify application integrity.
   - Solution: Develop your application using the latest Tizen SDK(ver2.2), then signature will be generated automatically during packaging. But if you want maintain an application based on ver 2.1, you can create the signature using the 'Certification Generator Too'

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**TIP to solve this issue:**

. Build your application on the latest SDK as possible. (SDK2.2)

. For more information, please refer to the URL below.

| | | |
|---|---|---|
| **1. Privilege** | **1-1. Web** | https://developer.tizen.org/documentation/dev-guide/2.2.1<br>Tizen Native App Programming > IDE and Tools > Native IDE > API and Privilege Checker |
| | **1-2. Native** | https://developer.tizen.org/documentation/dev-guide/2.2.1<br>Tizen Web App Programming > IDE and Tools > Web IDE > Privilege Checker |
| **2. Application Signing** | | https://developer.tizen.org/documentation/dev-guide/2.2.1<br>Getting Started with Tizen > Overview > Security Architecture > Application Signing |

## 1.3 Back Key Malfunction
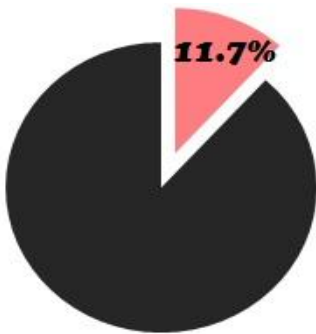


Not in compliance with the following Validation guidelines.

• 3.1.9   Application should not crash or cause malfunctions due to H/W usage.
(e.g. MENU, HOME, BACK, VOLUME, HOLD key)

• 3.1.10 H/W key itself should work as user can normally expect when user executes application.

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**Defect Examples**
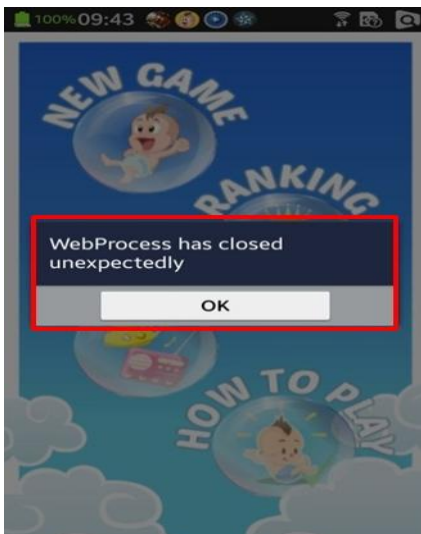


1. Back Key does not work.
   - Defect: Application does not work properly with Back Key event.
   - Solution: Application should go to the previous page or be terminated with Back key interruption.

2. Malfunction of Back Key.
   - Defect: Application is terminated by force when user presses Back key.
   - Defect: Application gets frozen when user presses Back key.
   - Defect: Application shows pop-up or error message when user presses Back key.

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**Self-check list**

▪ [IV-6] Application should operate without any problems when user presses H/W KEY while application is running (BACK, CAMERA, etc.).

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**TIP to solve this issue:**

▪ Since Tizen 2.2, the physical Menu and Back keys are mandatory part of Tizen. Therefore, your application should be built on higher than SDK 2.2 version to handle physical keys properly.

▪ For web application, you can bind event handlers on the 'tizenhwkey' event to handle physical Menu and Back key. Please refer to below code example.

```javascript
// Javascriptcode
$( window).on( "tizenhwkey", function ( ev ) {
  if ( ev.originalEvent.keyName === "back" ) {
  //call browser back if webApp dev. wants back behavior
  window.history.back();
  //add script if there is a need to add another behavior
  // on H/W back key press
  }
```

```
}
```

- For native application, you can use IFormBackEventListener and IFormMenuEventListener
  to handle physical Menu and Back keys since Tizen 2.2. Please refer to below code example.

```
class HWKeyForm
  : public Tizen::Ui::Controls::IFormBackEventListener
  , public Tizen::Ui::Controls::IFormMenuEventListener
{
  public:
    // IFormBackEventListener
    virtual void OnFormBackRequested(Tizen::Ui::Controls::Form& source);

    // IFormMenuEventListener
    virtual void OnFormMenuRequested(Tizen::Ui::Controls::Form& source);
};
```

- For more details on how to handle physical Menu and Back keys,
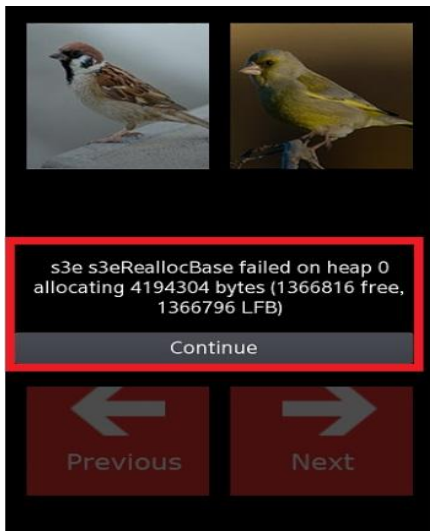  please refer to the "Application Migration Guide – Tizen 2.1 to 2.2".

## 1.4 Basic Functions do not exist or work properly

**7.9%**
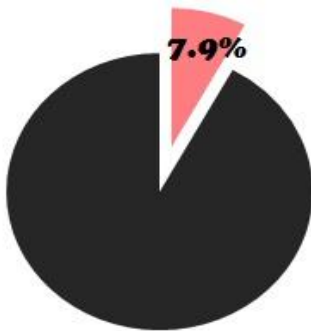
Not in compliance with the following Validation guidelines.

• 3.1.4 Application should provide functions according to the
description or help.

• 3.1.5 Each feature of application should work without malfunction.

• 3.1.7 If application's function does not work as expected,
it will be rejected.

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**Defect Examples**



s3e s3eReallocBase failed on heap 0
allocating 4194304 bytes (1366816 free,
1366796 LFB)

Continue

Previous    Next

1. Does not provide functions as explained
   in the description or help.
   - Defect: Some of the functions described in
     description are not provided in application.
   - Solution: Certain functions should be provided
     according to the description.

2. Occurring malfunctions.
   - Defect: Unexpected pop-up or error message
     Appears when user tries to user application functions.
   - Defect: Application works in a wrong or unexpected
     way when user selects one of the menus.
   - Defect: Linked website is not connected.
   - Solution: Application functions and menus should
     work properly without any kinds of malfunctions.

3. UI without any function.
   - Defect: Nothing happens when user selects menu.
   - Solution: All UIs should have its function and
     response when user presses.

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**Self-check list**

▪ [Ⅲ-1] All the menus and functions operate successfully without any problems.

▪ [Ⅵ-5] Menu name should be related to its content to let users identify application functions.

## 1.5 Fail to Install, Execute or Terminate Application
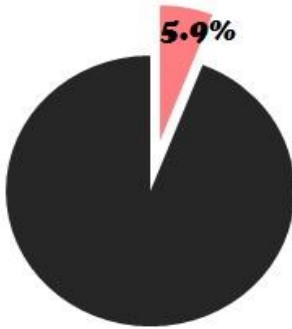


Not in compliance with the following Validation guidelines.

• 3.1.1 Application should be installed on its target device without any errors.

• 3.1.3 Application should be launched within 10 seconds after clicking the icon unless there is a visual indication of progress.

• 3.1.8 It should be possible to remove application without any errors.

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**Defect Examples**



1. Application fails to be installed.
   - Defect: Application file can't be installed because of its invalid format file type.
   - Defect: User cannot download essential data even if the network is available.
   - Solution: Application should be installed successfully.

2. Application fails to be executed.
   - Defect: Application is terminated by force right after executing application.
   - Defect: Application is not opened and shows no response when user clicks icon.
   - Solution: Application should be executed successfully.

3. Application fails to be terminated.

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**Self-check list**

▪ [Ⅱ-1] The size of apk file*4MB (multiplied by 4MB) must not exceed the internal memory of device.

▪ [Ⅱ-2] Application must be installed for the targeted devices without any problems.

▪ [Ⅱ-3] Application must be uninstalled as user expects.

▪ [Ⅱ-4] Application should be executed without any problems.

▪ [Ⅱ-5] Application must be closed without any problems by following options.
   - 5-1) Using the exit option in application
   - 5-2) Using the Task Manager

▪ [Ⅵ-1] It should be possible to reinstall the deleted application on the device.

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**TIP to solve this issue:**

▪ Developer can use the Samsung RTL (Remote Test Lab) to test and tune the application before submission.

▪ Check if your target device is whether ARM based or Intel 80386 based because your native

application is failed to execute if the file type of .exe file is not suitable for your target device.

- If your application is a multi-thread application, please make sure that UI handling is done only in the main thread since the Tizen UI framework is not thread safe. If not, your application may cause execution or termination failure unexpectedly depending upon the race condition among the threads. Please refer to this link for more details on multithreading with the UI framework.