Tizen Validation Guidelines

Tizen Validation Guide

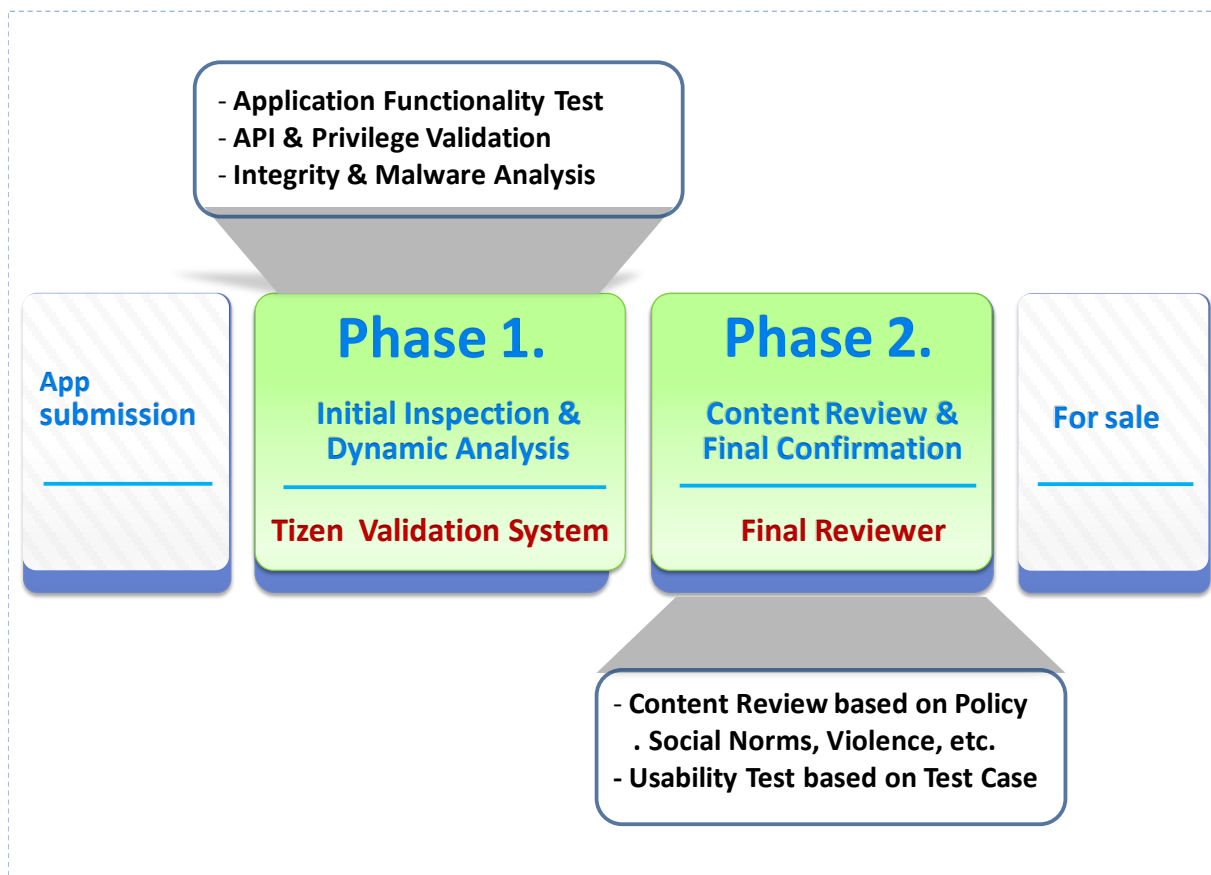## Index

TIZEN STORE SELLER OFFICE

1.   Introduction

Before you submitting your application on Tizen Store and distribute it to users, you need to confirm if your application is secure and reliable to users.

This document helps you understand the publishing process and get ready for a successful product launch on Tizen Store. It summarizes some of the tasks you'll need to complete before publishing your application on Tizen Store, such as understanding the functional or legal requirements of the application, and Tizen Store policies on content.

Tizen Store will from time to time update and conduct audits to satisfy that this policy is being complied with for stakeholders; users, sellers, mobile operators or the public.

Tizen Store reserves the right to approve or withhold approval and reject any content at its sole discretion. If any registered content is found objectionable by users, or if it does not comply with validation guidelines, Tizen Store reserves the right to remove any content from Tizen Store at any time without seller's consent.

2.   Application Validation Process

- **Application Functionality Test**
- **API & Privilege Validation**
- **Integrity & Malware Analysis**

App submission	**Phase 1.** **Initial Inspection & Dynamic Analysis** **Tizen Validation System**	**Phase 2.** **Content Review & Final Confirmation** **Final Reviewer**	For sale

- **Content Review based on Policy**
  . Social Norms, Violence, etc.
- **Usability Test based on Test Case**

The Validation Process represents the whole procedure ranging from the application's registration to the final confirmation. It is divided into two phases: one is automatically done by a system, referred to as Initial Inspection & Dynamic Analysis, and the second phase is performed manually by Final reviewer, and is referred to as Review & Final Confirmation. If an application passes the process, its status will be changed to *ready for sale* in the Tizen Store. If an application fails, a detailed validation report will be sent to the seller. The Validation Process takes three business days on average.

2.1   Initial Inspection & Dynamic Analysis

In this phase an application is validated by the automation system on the basis of the system's *Defect Library*. Tizen Security Analysis System filters out security threats, e.g. malware, API privilege, web attack patterns, etc. Tizen Test Automation System checks the metadata and the application's basic functions.

2.2   Content Review & Final Confirmation

This is the second and last phase in which a reviewer makes a final decision regarding the application's approval and delivers the result to the seller. In this stage reviewer validates applications on the basis of the Tizen Validation Guide.

3.   Tizen Validation Policy

3.1   Functionality

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

3.1.2   Icon image should be displayed on the target device's main menu after installation.

3.1.3   Application should be launched within 10 seconds after clicking on the icon unless there is a visual indication of progress, e.g. a progress bar.

3.1.4   Application should provide the functions corresponding to its description.

3.1.5   Each feature of an application should work normally without malfunctions.

3.1.6   Users should be able to upgrade to the newest version without any errors.

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

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

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. See the Tizen UX Guide for further details.

3.1.11 Application should not crash or create malfunctions to the embedded phone features such as GPS, Camera, motion sensors, Bluetooth, WIFI etc.

3.1.12 Application should provide information required to fully validate the application, such as:

- Test account for log-in features.

- Instructions for accessing and downloading additional files.

- Pre-release versions (demo) should notify the users about the limitations (e.g. expiration dates or limited functionality).

3.1.13 Application must not link to other application store.

3.2   Usability

3.2.1   Application should be designed to be valuable, entertaining, unique or informative. If application just offers the simple web site links or puzzles which only changed puzzle board color, it may be rejected.

- For more details, you can refer to 6. Usability Evaluation Guide.

3.2.2   Application should minimize user effort. If it is not easy to understand due to complex interface, it may be rejected.

3.2.3   Application should be designed by considering aesthetic factors. UIs in application should be arranged harmoniously and use proper size or color in order to enhance readability. Application that does not follow the Tizen UX Guide may be rejected.

- Menu, graphics and text must be clearly visible and work correctly.
- The main icon represents the application and it is recommended to be a circular shape.
- Application should cover the entire screen of a device.
- Application should use input capabilities applicable to the device.
- Application should not contain any overlapped or truncated text, graphics distortion, or any kinds of display errors.
- Application should be displayed and work correctly regardless of the screen's orientation.

3.3   Metadata

3.3.1   Icon, screenshots, description and tag in the Tizen Store should be consistent with those installed on device and should be appropriate for children (refer to the Age Rating Guide, page 13, for details).

3.3.2   Application title and default description should be written in English if selecting two or more countries for sale.

- You can add application title and description in 6 languages in the seller office.

3.3.3   Age rating should comply with the Age Rating Guide.

3.3.4   Valid e-mail addresses and Support URLs are required to get in contact with Developers.

3.4   Intellectual Property

3.4.1   Application should not violate brand name, trademark, logos, and other source identifiers including Tizen brand.

3.4.2   Application should not use copyright-protected content without permission from the

copyright holder.

3.4.3   Application should not provide any method to share copyrighted content such as media or images via P2P or a server.

The seller is required to own the right or obtain adequate license from the copyright owner for all the content submitted to the Tizen Store. The seller is solely responsible for any offenses that result from not complying with the Tizen Validation Guide and any infringement of copyright that is found in their applications.

3.5   Adult Content

3.5.1   Content should not depict or encourage pornography, nudity, sexually explicit behavior or violence (especially exploitative or sadistic violence towards vulnerable people, minors or animals).

3.5.2   Content must not contain explicit sex scenes (images of sexual or sexually suggestive activities)
   - Application for educational purpose if the age rating is 18+ (several countries will be excluded from the countries of service).

3.5.3   Content must not contain nudity (images that reveal genitals, buttocks, nipples).

3.5.4   Content must not contain images or words of a sexually suggestive manner.

▪ Age Rating Guide for sexual content

All	12+	16+	18+	Not Allowed
No sexual content	Mild sexual behaviors (e.g. kissing, lingerie, bikini) but not to arouse sexual urges	Non-explicit depiction of sexual behavior; can refer to sex in a mild way	Suggestive or intense sexual references; full front view of a body without exposure of genitals, buttocks or breast	Pornography

3.6   Violence

3.6.1   Content must not describe killing.

3.6.2   Content must not depict blood in a cruel way.

3.6.3   Content must not depict violence towards vulnerable people, minors and animals.

3.6.4   Content must not describe child abuse.

3.6.5   Content must not depict intense violence, including masochism and torture.

3.6.6   Content must not depict sexual harassment or rape.

▪ Age Rating Guide for violent content

All	12+	16+	18+	Not Allowed
Educational purpose	Violent scenes of mild, unrealistic or fantasy character	Very violent scenes, both realistic and animated	Extremely violent graphic images	Glamorizing death, torture, weapons, etc.

3.7   Alcohol, Drugs and Tobacco

3.7.1   Content must not depict illegal alcohol, drugs and tobacco use directly or indirectly.

3.7.2   Content has to include a warning, in the description or in the application, about drugs or medicine information available within the application.

▪ Age Rating Guide for alcohol, drugs and tobacco content

All	12+	16+	18+	Not Allowed
No usage of alcohol, drugs and tobacco	Mild reference to images or descriptions of alcohol, drugs or tobacco		Depiction of alcohol, drug and tobacco	Advertisements of alcohol, drugs and tobacco

3.8   Legal Requirement

3.8.1   Content should not link to websites that contain illegal or inappropriate materials.

3.8.2   Content must observe legal requirements as well as the moral values of countries where it is available. If content fails to comply with any legal requirements or moral values, it will be rejected.

3.9   Defamation

3.9.1   Content must not disparage a person or a group of people on the basis of:

- Race

- Gender

- Ethnicity

- Nationality

- Religion

- Disability

- Ideology

- Disparage a public figure (historical character, celebrity, politician, royal family, etc.)

- Any other distinction that might be considered offensive

3.9.2   Content must not contain any material that promotes political propaganda.

3.10   Game

3.10.1   Application must not include any lottery, betting or gambling elements that require real money or transfer virtual money into real money or prizes if the player risks losing money or valuables.

3.10.2   In case of an 18+ game application for the Korean market, only game applications that use the GRB age rating are acceptable.

▪ Age Rating Guide for gaming

All	12+	16+	18+	Not Allowed
No gambling content	Mild reference to images or descriptions of gambling activities		Simulated gambling without real money betting	Gambling with real money

3.11   User Privacy and Opt-in

3.11.1   Application that uses transfers and/or transmits the user's location information must notify the user prior to each use of the application and obtain their consent.

3.11.2   Application that uses personal information must notify users how and why their personal data is gathered disclosed or shared. Example of such data include:

- Contacts

- Phone numbers

- Credit card data

- Multimedia files (photos, audio and video)

- Text or voice communication (SMS, MMS and Call log)

- Browsing history

- Location information

- Other data saved on mobile devices or cloud storage services

3.11.3 Transmission of personal information is forbidden without the user's explicit consent (Opt-in) and must be encrypted while being transmitted.

3.11.4 Transmission of personal information to a third-party must be disclosed to the Tizen Validation Team in the Notes to Validation Team notes section on the submission page.

3.12 Advertisement

3.12.1 Advertisement in application should be consistent with age rating of the application itself.

3.12.2 Advertisement in application should comply with Tizen Validation Guide.

- Any advertisement must not contain illegal activities, violence, sexually explicit content, promotion of alcohol/smoking/drug, propaganda, uncertified pharmaceutical products, and privacy violations in application.

- Any advertisement must consistent with age rating of its application.

   (e.g. application for all ages should not contain advertisement for 18+.)

3.12.3 Application must not include any type of illegal substance, activity or service which can mislead or deceive users.

3.12.4 Application must not include any type of Push advertisement.

4. Tizen Application Compliance

4.1 Namespace

4.1.1 Application should include a namespace, such as: <Company>; <application>.

4.1.2 Application must not overwrite the Tizen API namespaces.

4.2 Application packaging and SDK use

4.2.1 Application that is not packaged using Tizen SDK will be rejected.

4.2.2 Application that does not use the Tizen SDK will be rejected

4.3 Privileges

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.

4.4   Interrupt Handling, Messaging and Calls

4.4.1   Application that sends and/or receives SMS or MMS messages should send the messages successfully.

4.4.2   Users should be able to accept an incoming phone call while the application is running. Furthermore, it should resume from the same point, or at a reasonable re-starting point, when the call is ended.

4.4.3   Application should not block the user from making emergency calls on a cellular network.

4.4.4   Application should not crash or cause malfunctions due to system performance while the application is running (e.g. alarm, SMS/MMS, email, receiving a call).

4.5   Network Usage

4.5.1   Application should not excessively use network capacity or bandwidth.

4.5.2   Application should handle the network connection being invalid/unusable (e.g. data connection/APN not properly set up or invalid for current carrier) or the device being switched into offline/flight mode.

4.5.3   Users should be notified by a message if network delays or connection errors occur.

4.6   Security

4.6.1   Application that contains viruses, spyware, Trojan, malicious or harmful code which could damage, destroy, or adversely affect other software, firmware, hardware, data, systems, services or networks will be rejected.

4.6.2   Application that uses advertising networks that promote malware will be rejected.

STORE SELLER OFFICE

5.   Age Rating Guide

5.1   Age Rating Categories

Age Rating is used to ensure that applications available in the Tizen Store are labeled by age according to the content. Age rating provides guidance to users, particularly parents, to help them decide whether to download a particular application or not. The rating of an application confirms that it is suitable for users over a certain age. Age rating is classified in the following way:

- All   : Applications that everyone can play.
- 12+ : Applications that child under the age of 12 cannot play unless accompanied by adults.
- 16+ : Applications that children and teenagers under the age of 16 cannot play unless accompanied by adults.
- 18+ : Applications that teenager and children (under 18) cannot play.

Content rating in the TIZEN store has been created according to international age rating standards for video/game content such as ESRB, PEGI. Therefore, if any content has an international age rating level, the level will be accepted without further review.

Tizen	ESRB	PEGI	GRB	MJ/DEJUS
ALL	EC	3+	All	ER/L
	E	7+		10+
12+	E10+	12+	12+	12+,14+
16+	T	16+	15+	16+
18+	Mature	18+	18+	18+

[Age rating categories]

5.2   Details of Rating Categories

The following table describes age rating criteria.

Content descriptor	All	12+	16+	18+	Not Allowed
Sexual (3.5)	No sexual content	Mild sexual behaviors (e.g. kissing, lingerie, bikini) but not to arouse sexual urges	Non-explicit depiction of sexual behavior; can refer to sex in a mild way	Suggestive or intense sexual references; full front view of a body without exposure of genitals, buttocks or breast	Pornography
Violence (3.6)	Educational purpose	Violent scenes of mild, unrealistic or fantasy character	Very violent scenes, both realistic and animated	Extremely violent graphic images	Glamorizing death, torture, weapons, etc.
Alcohol, drug and tobacco (3.7)	No usage of alcohol, drugs and tobacco	Mild reference to images or descriptions of alcohol, drugs or tobacco		Depiction of alcohol, drug and tobacco	Advertisements of alcohol, drugs and tobacco
Game (3.9)	No gambling content	Mild reference to images or descriptions of gambling activities		Simulated gambling without real money betting	Gambling with real money
Horror/ Fear	No horror or fearful content	Very mild horror content	Mild or infrequent occurrences of horror-themed images, sounds and text.	Strong threats; Strong gory images or cruelty including a high level of fear or anxiety	Extreme threads; Extreme gory images or cruelty including a high level of fear or anxiety
Bad language	No bad language	Mild use of bad language	Infrequent use of strong language such as the word *fuck*	Frequent use of offensive language or explicit sexual references	Unacceptable use of offensive language or extremely explicit sexual references

6.   Usability Evaluation Guide

6.1   Usability Evaluation definition

Usability is a necessary condition for survival. If an application is difficult to use, not interesting or not looks good, people will never use it again. In order to offer good quality applications to Tizen store users, good usability is required as well as other software quality related requirements. Tizen Validation team regard that developer's success is closely related with customer's satisfaction. So, based on international consensus standard, we defined application usability as overall satisfaction on application usage. It covers interest,

reliability (performance), easy to use, enough features to achieve goals and application design.

6.2   Usability Evaluation Criteria

There are 5 main criteria to measure usability in a quantitative manner.

6.2.1   Interest/Usefulness

Definition	Level of interest or usefulness delivering to user. The main purpose of this standard is to measure how much users would want the applications and how frequently would be used.
Questionnaries	- Does it have interesting contents or level that user expected? - Does it help user be more effective? - Does it give users more control over the activities in their life? - Does it make the things that user wants to accomplish easier to get done? - Does it meet user's needs? - Would occasional and regular users like it?

6.2.2   Reliability(Performance)

Definition	How fast and less errors while using application.
Questionnaries	- Does it have interesting contents or level that user expected? - Does it help user be more effective? - Does it give users more control over the activities in their life? - Does it make the things that user wants to accomplish easier to get done? - Does it meet user's needs? - Would occasional and regular users like it?

6.2.3   Easy to use

Definition	How easy to learn and use the application.
Questionnaries	- Is it simple to use? - Is it user friendly? - Does it require the fewest steps possible to accomplish what user wants to do with it?(Navigation convenience) - Is it available with less effort? - Is it available to use without written instructions? - Are there any inconsistencies while using it? - Is it available to use successfully every time?

6.2.4   Enough features

Definition	Whether or not to provide enough valuable features to users

Definition	Whether or not to provide enough valuable features to users
Questionnaries	- Is it available to do any task as user intended? - Does it provide any additional valuable features? - Does it do something user would expect it to do? - Does it help user be more productive with valuable features?

6.2.5   Application Design

Definition	How beautiful the application UI is and how well arranged objects (button, combo box, etc.) in each page.
Questionnaries	- Are the objects arranged harmoniously? - Are the colors in applications matched well? - Does application provide good quality iconographic or infographic? - Does application provide good quality images or graphics? - Are the texts easy to read? (too small or too large size of text make readability low) - Is not there any resolution issue?