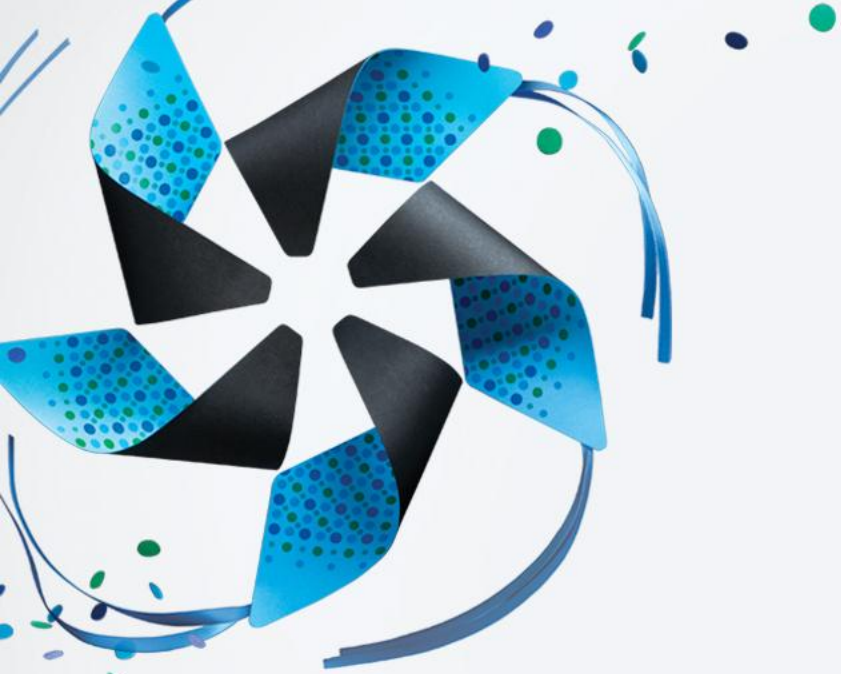




Best practices in Tizen Wearable development

Adam Panasiuk



Presentation contents

- Introduction
- Tizen Wearable
- Development & Tips
- Testing and certification
- Summary
- Q&A

Introduction



Wearable gadgets





Tizen Wearable

Tizen Wearable: Gear 2



Tizen Wearable: Gear S



Tizen Wearable: Getting Started



Tizen Wearable: Getting Started

How Can I Develop a Gear Application?



SDK Download

Tizen SDK for Wearable Samsung Accessory SDK

>> [Download Links](#)



Gear App Development

Getting Started with samples & Documents!

>> [Technical Resource](#)



Getting the Gear Certificate

Be secure your app to upload to Samsung Gear Apps

>> [Certification Guide](#)



Testing

If you have no Gear device, Use Gear Emulator & RTL

>> [Get Gear Emulator](#)

>> [RTL Service](#)



Registration through Samsung GALAXY Apps

>> [Gear App Distribution Guide](#)

>> [Samsung GALAXY Apps Seller Office](#) 

Development & Tips



Tizen Wearable: Getting Started

<http://developer.samsung.com/samsung-gear>

SAMSUNG DEVELOPERS

Sign in | Sign up | English

Device

- Samsung Gear
- Samsung Mobile
- HomeSync
- S Console

Services

- Samsung Account API
- Samsung AdHub SDK
- Samsung ChatON SDK
- Samsung Group Play SDK
- Samsung IAP SDK
- Samsung Smart Home SDK
- Samsung Wallet API
- S Health Service SDK
- Smart Connectivity SDK

Convergence

- Samsung Web API

Partner Tools

- Android
- Others
- Development Overview

Samsung Gear

Overview FAQ



Tizen SDK for Wearable 1.0.0
Oct 6, 2014

Download

Samsung Accessory SDK 2.1.11
Oct 6, 2014

Download

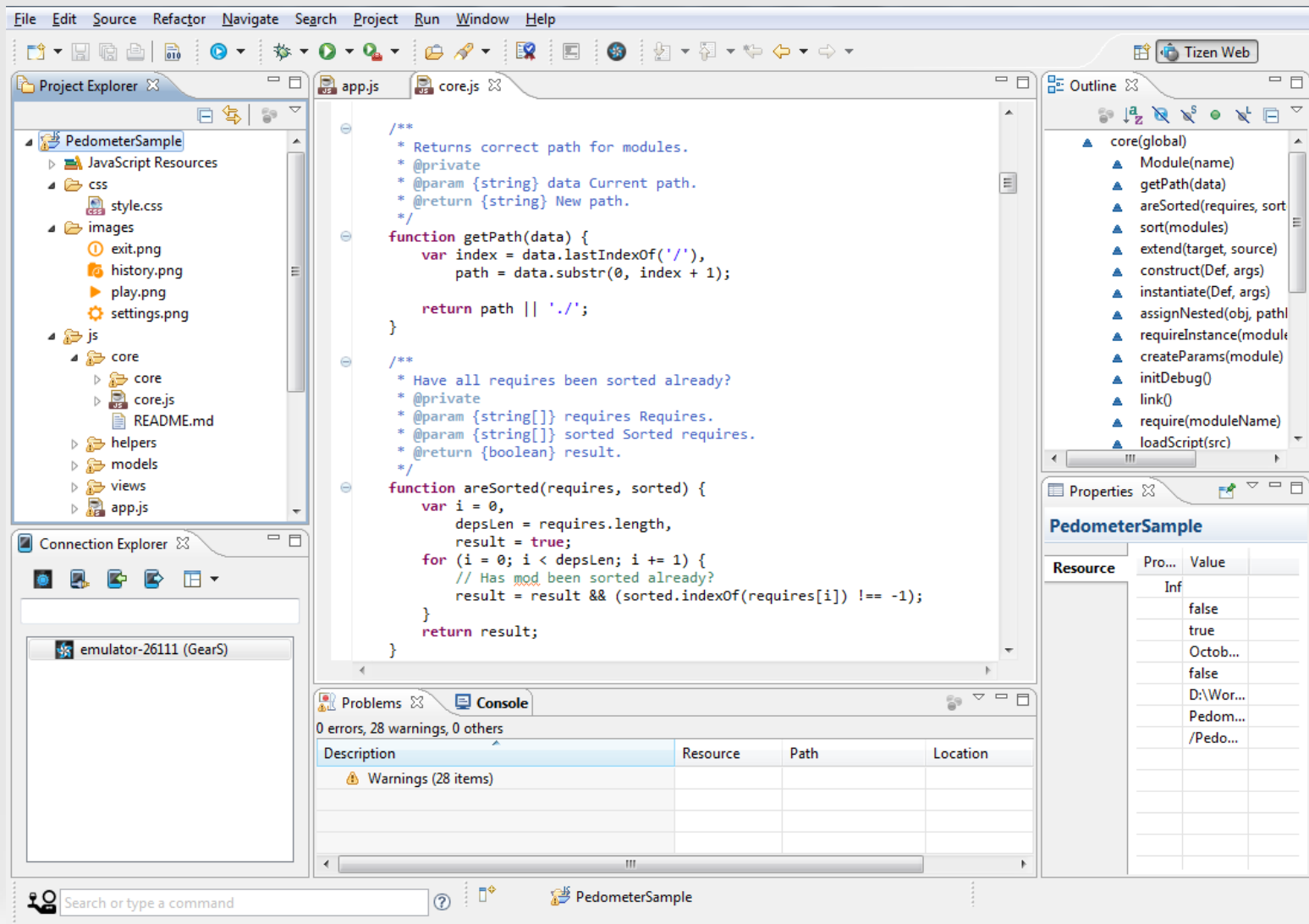
NOTE For developing Samsung Gear Application, you need both of the **Tizen SDK for Wearable** and **Samsung Accessory SDK**. You can find more details on how to develop Gear Application in the 'Hello Accessory Developer's Guide' document below.

Samsung Gear Application consists of the Host-side Application which runs on **Android-based Samsung mobile devices**, and the Wearable-side Widget which runs on **Tizen-based Samsung Gear devices**.

The Host-side Application can be developed in **the common Android development environment**, whereas, the Wearable-side Widget can be developed with **Tizen SDK for Wearable**.

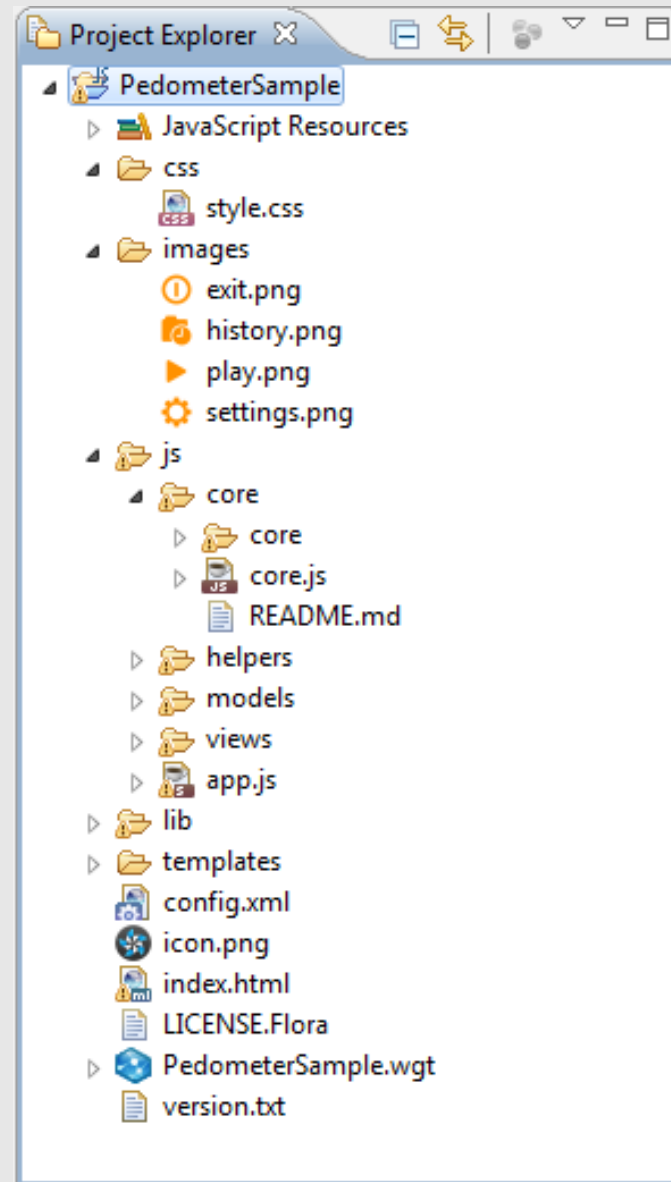
In addition, **Samsung Accessory SDK**, is the necessary component for communicating between the Host-side Application and Wearable-side Widget. You can find more details below.

Tizen Wearable IDE



Tizen Wearable IDE

Project components:



Tizen Wearable

Gear Manager, Wearable Manager Service, Samsung Accessory Protocol

Samsung
Gear



Connecting to Gear...

After connecting to your Gear, you can change its settings and install applications on it via Samsung Gear.

Cancel

Samsung
Gear

 Gear 2 (88D3)
Connected via Bluetooth

EDIT HOME SCREEN

 Home screen styler

APPS AND SETTINGS

 S Health

 Notifications

 My apps

 Samsung Gear Apps

< My apps

 Camera

 Contacts

 Controls

 Dialler

 Email

 Exercise

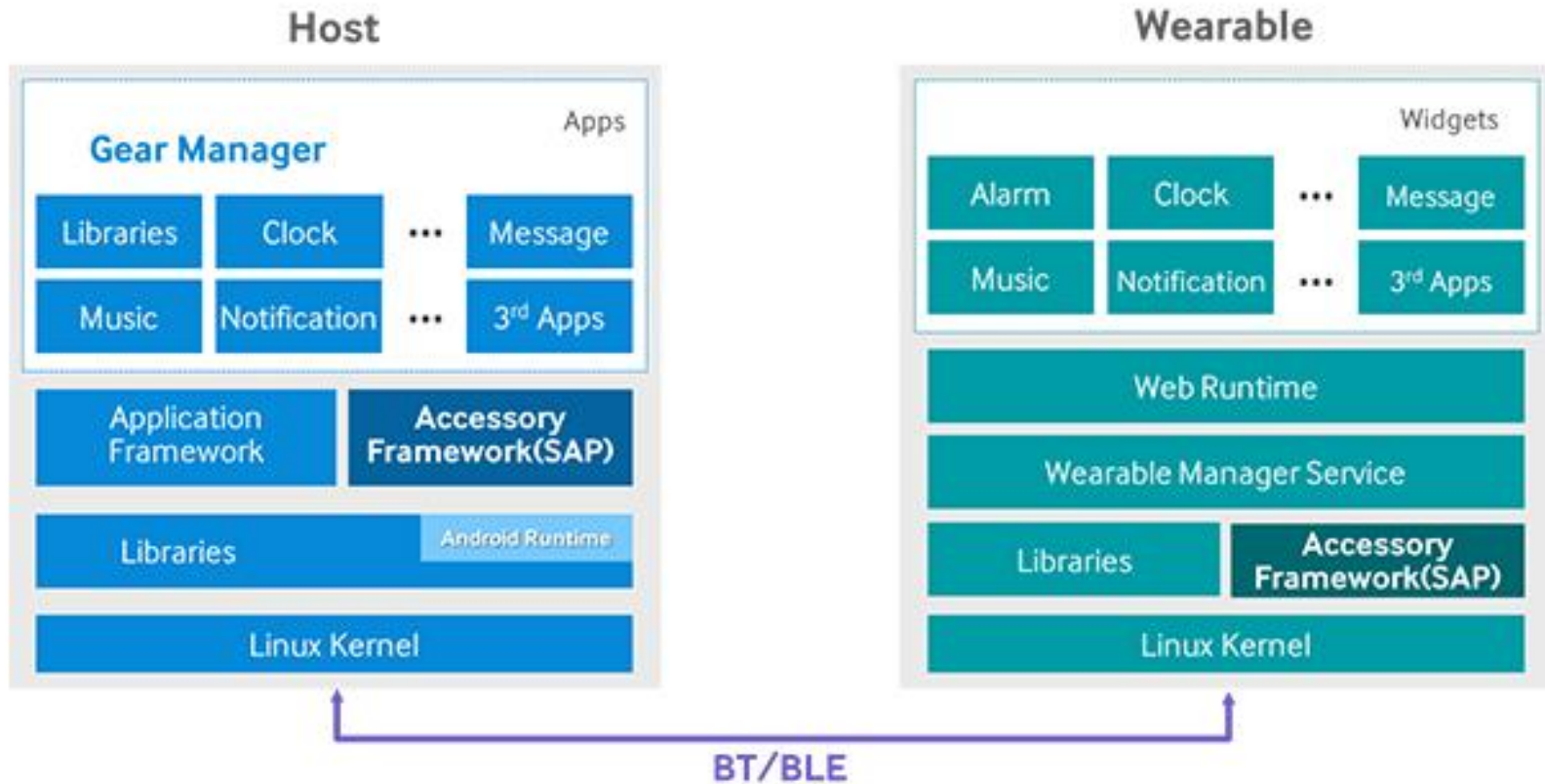
 Find My Device

 Gallery

 Heart Rate



Tizen Wearable



Development Tips

Use specialized Tizen API's instead of generic JavaScript.

Example:

Instead of:

```
var date = new Date();
```

Use:

```
var date = tizen.time.getCurrentDateTime();
```

Specialized Tizen Wearable API's synchronize with the connected phone, preventing problems with manual time change and when swithing time zones.

More info: <https://developer.tizen.org/dev-guide/2.2.1/org.tizen.web.device.apireference/tizen/time.html>

Development Tips

Use CPU and wake locks when needed.

After a certain time of inactivity, the device will turn its screen off. To prevent this behaviour, implement a wake and a CPU lock.

```
tizen.power.request("SCREEN", "SCREEN_NORMAL");  
tizen.power.request('CPU', 'CPU_AWAKE');
```

Remember to release the locks when not needed anymore.

```
tizen.power.release("SCREEN");  
tizen.power.release('CPU');
```

In order to use this, the power privilege must be declared in the config.xml file

```
<tizen:privilege name="http://tizen.org/privilege/power"/>
```

More info: <https://developer.tizen.org/dev-guide/2.2.1/org.tizen.web.device.apireference/tizen/power.html>

Development Tips

`<div>` elements are highlighted in orange.

After touching a clickable `<div>` element on the device, it gets highlighted in orange for a short period of time. To disable this, in your CSS insert the following:

```
{  
    -webkit-tap-highlight-color: rgba(0, 0, 0, 0);  
    -webkit-tap-highlight-color: transparent;  
}
```

More info: <https://developer.tizen.org/forums/web-application-development/gear-tags-onclick-are-highlighted-orange>

Development Tips

If your app is destined for multiple devices with different resolutions use CSS Media Queries.

Example:

```
// CSS for screens with max resolution == 320px - Gear, Gear 2, Gear 2 Neo
@media screen and (max-width: 320px) {
    div#main {
        width: 320px;
        height: 320px;
    }
}

// CSS for screens with max resolution == 360px - Gear S
@media screen and (max-width: 360px) {
    div#main {
        width: 360px;
        height: 480px;
    }
}

// Other styles, that are the same for both resolutions
div#container {
    background-color: #000000;
}
```

Remember to add the appropriate line into your config.xml file

```
<feature name="http://tizen.org/feature/screen.size.all"/>
```

More info: https://developer.mozilla.org/en-US/docs/Web/Guide/CSS/Media_queries

Development Tips

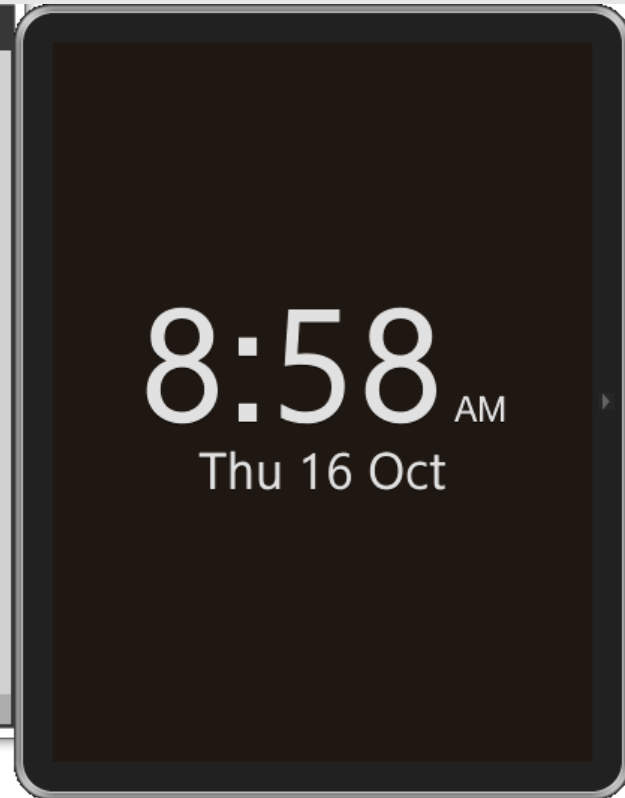
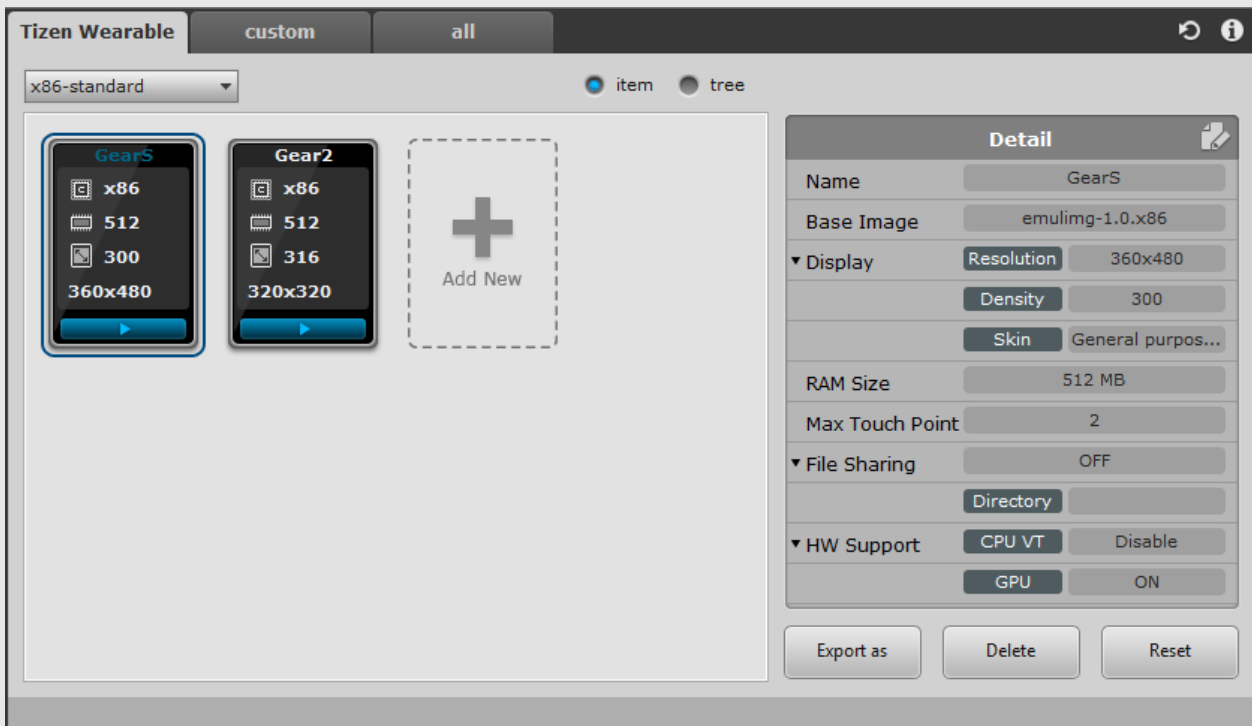
You can also upload different binaries per resolution (recommended when functionalities vary between devices).

Keep in mind, that not all devices have the same capabilities. For example, the Gear 2 Neo does not have a camera. In this case, you can upload different binaries under the same app name.



Testing and Certification

Emulator



Device List

- RTL(Remote Test Lab) requires a Modern browser with JavaScript and a Java runtime environment (JRE v1.7 +).
- Configuration requirements:

Configuration check result : **Pass**

Show Details ▼

✔ Once your configuration is OK, Continue to select a device.

RTL(Remote Test Lab) allows users to install and test applications over the web.

Hot

Android

Tizen

Wearable

MY RESERVATIONS

Gear S

Gear S



-- OS Version --

-- Device List --

Reserve for 30 minutes

Start

Gear 2

Gear 2



-- OS Version --

-- Device List --

Reserve for 30 minutes

Start

Gear 2 Neo



-- OS Version --

-- Device List --

Reserve for 30 minutes

Start

Certification



Samsung
GALAXY Apps



Samsung Apps TV

Seller Office

• ENGLISH • 中國語 • 한국어(한국)

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Samsung SMART TV

Samsung smart TV leads global market

Smart interaction communicates with you
Smart evolution is up-to-date every year

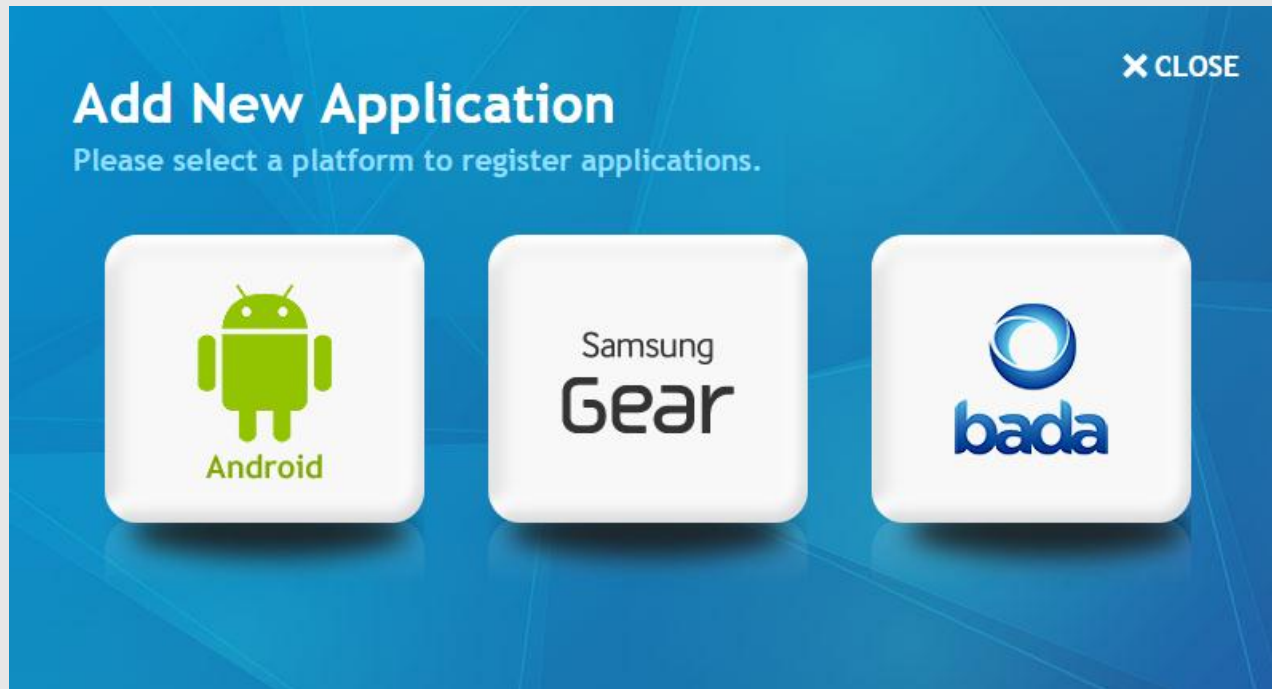
* UI can vary by service countries.



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<http://seller.samsungapps.com/>

Certification



<http://seller.samsungapps.com/>



Summary



Q&A

Thank you for your attention.



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