TWL-SDK

Developing Applications That Support Extended Languages

Version 1.0.5

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> and should be handled accordingly.**

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Revision History

Version	Revision Date	Description
1.0.5	2009/09/08	In Chapter 2 Nintendo DS Specifications for Each Market and Chapter 3 Applications for the Chinese Market, deleted text about launch restrictions for Chinese-market applications.
1.0.4	2009/05/08	In section 3.2.3 Specifying a Banner revised the explanation of banner specifications for Chinese-market applications.
1.0.3	2009/04/13	Clarified the explanation in section 3.2.3 Specifying a Banner regarding the specification of banners for Chinese-market applications.
1.0.2	2008/10/16	Changed wording for inclusion with the TWL SDK.
1.0.1	2007/02/23	Revised the version number of the SDK version referenced in section 4.3.
1.0.0	2006/11/07	Initial version.

1 Introduction

The TWL-SDK includes functionality to create applications for China and South Korea. This document describes how to use this functionality to support these extended languages.

The install path for the TWL-SDK is denoted as $TwlSDK throughout this document.

2 Nintendo DS Specifications for Each Market

2.1 The Nintendo DS and Corresponding Applications

Nintendo DS applications have no launch restrictions based on any combination of DS Card region and DS system market.

However, applications developed for China using TWL-SDK 5.2 or earlier will only run on DS systems for that market.

2.2 Supported Languages

The following indicates the relationships between specific-market DS systems and the languages supported on them.

- On DS units for the Chinese market, Japanese has been deleted from the global DS list and Chinese has been added.

- On DS systems for the South Korean market, Italian has been deleted from the global DS list and Korean has been added.

However, the language support in DS systems specific to China and South Korea extends only to displayed messages and banners; there is no support for text entry, including user names, in Chinese and Korean.

Table 2-1 Supported Languages by Nintendo DS Market

	Supported Languages					
Global DS systems	Japanese	English	French	German	Italian	Spanish
DS systems for China	Chinese	English	French	German	Italian	Spanish
DS systems for South Korea	Japanese	English	French	German	Korean	Spanish

3 Applications for the Chinese Market

The following is a description of the procedures necessary for developing applications for the Chinese market.

3.1 Application Specifications for the Chinese Market

The specifications for applications for the Chinese market are as follows:

- When run on a Chinese-market DS for which the language code is set to Chinese, the `OS_GetOwnerInfo` function can acquire Chinese for the language code.

  Note: When applications for other markets are launched on a Chinese-market DS, the language code that can be acquired is automatically changed to English.

- Applications that support both the China and South Korean markets are not allowed.

3.2 Supporting Chinese

The following describes the development process for applications for the Chinese market.

When developing applications for the Chinese market, the following three tasks are required in addition to those required for developing a global application.

- Use a specialized OS initialization function.

- Define incidental information indicating that Chinese is supported within the ROM image

- Specify a Chinese language banner.

For examples, see the Chinese samples included in `$TwlSDK/build/demos/os/forChina-1`.

3.2.1 Using a Specialized OS Initialization Function

To develop applications for the Chinese market, you must use the `OS_InitChina` function instead of the `OS_Init` function. The following processes are performed when `OS_InitChina` is called:

- When Chinese-market applications are correctly run on a Chinese-market DS, screens indicating required information, such as health warnings and ISBN numbers, will display.

For the arguments for the `OS_InitChina` function, you must get the ISBN code and other data issued by the Chinese government, and provide this data as strings of the specified format.

3.2.2   Defining Incidental Information Within the ROM Image

To develop applications for the Chinese market, you must indicate Chinese-language support by adding `ForChina TRUE` to the Property section (where incidental information is defined) in the RSF file.

Code 3-1 Rom Spec File for the Chinese Market

```
#RSF --- Rom Spec File


    Property
    {
        ...


        ForChina                TRUE


        ...

    }
```

3.2.3   Specifying a Banner

To create a banner file for Chinese-market applications used by Nintendo DS applications, specify `2` as the version specified within the banner spec file that is passed as an argument to `makebanner`, and add the Chinese banner `CN: "Game Title in Chinese"` to the list of six standard language banners, as shown in Code 3-2.

The game title here must be English for all languages except Chinese (`CN`).

Code 3-2 Banner Spec File Used by Nintendo DS Applications for the Chinese Market

```
#BSF --- Banner Spec File


Version:    2


JP:         "Game Title in English"
EN:         "Game Title in English"
FR:         "Game Title in English"
GE:         "Game Title in English"
IT:         "Game Title in English"
SP:         "Game Title in English"
CN:         "Game Title in Chinese"
```

To create a banner file for Chinese-market applications used by Nintendo DSi applications, specify `3` as the version (shown in Code 3-3) in the banner spec file that is passed as an argument to `makebanner.TWL`, and specify a Korean (`HN`) game title in English in addition to the aforementioned items.

Code 3-3 Banner Spec File Used by Nintendo DSi Applications for the Chinese Market

```
#BSF --- Banner Spec File


Version:    3


JP:         "Game Title in English"
EN:         "Game Title in English"
FR:         "Game Title in English"
GE:         "Game Title in English"
IT:         "Game Title in English"
SP:         "Game Title in English"
CN:         "Game Title in Chinese"
HN:         "Game Title in English"
```

3.3 Chinese Language Support in Older Versions of the NITRO-SDK

Chinese language support was added in the official release of NITRO-SDK 2.1. The methods described herein for creating Chinese-market applications cannot be used in earlier versions of the NITRO-SDK.

Please contact Nintendo if you want to work with an older version of the NITRO-SDK.

4 Applications for the South Korean Market

The following is a description of the procedures required to develop applications for the South Korean market.

4.1 Application Specifications for the South Korean Market

The specifications for applications for the South Korean market are as follows:

- There are no DS-specific restrictions for starting up the application.

- When run on a South Korean-market DS for which the language code is set to Korean, the `OS_GetOwnerInfo` function can acquire Korean for the language code.

  Note: When applications for other markets are launched on a South Korean-market DS, the language code that can be acquired is automatically changed to English.

- Applications that support both the Chinese and South Korean markets are not allowed.

4.2 Supporting Korean

The following describes the development process for applications for the South Korean market.

When developing applications for the South Korean market, the following two tasks are required in addition to those required for developing a global application.

- Defines incidental information indicating that Korean is supported within the ROM image.

- Specifies a Korean-language banner.

For examples, see the Korean samples included in `$TwlSDK/build/demos/os/forKorea-1`.

4.2.1 Defining Incidental Information Within the ROM Image

To develop applications for the South Korean market, you must indicate Korean language support by adding `ForKorea TRUE` to the Property section (where incidental information is defined) in the RSF file.

Code 4-1 Rom Spec File for the South Korean Market

```
#RSF --- Rom Spec File


    Property
    {
        ...


        ForKorea        TRUE


        ...
    }
```

4.2.2 Specifying a Banner

To create a banner file for South Korean-market applications, specify `3 as` the version within the banner spec file that is passed to a makebanner argument, and add the Korean banner `HN: "Game Title in Korean"` to the list of six standard language banners and Chinese banner, as shown in Code 4-2.

Furthermore, as both South Korean-market and global-market DS systems are available in Korea, be sure to use English or other non-Korean languages to specify the banner game titles for languages other than Korean (HN). The use of Korean will prevent the banners from displaying properly when run on global-market DS systems.

Code 4-2 Banner Spec File for the South Korean Market

```
#BSF --- Banner Spec File


Version:    3


JP:         "Game Title in English"
EN:         "Game Title in English"
FR:         "Game Title in English"
GE:         "Game Title in English"
IT:         "Game Title in English"
SP:         "Game Title in English"
CN:         "Game Title in English"
HN:         "Game Title in Korean"
```

4.3 Korean Language Support in Older Versions of the NITRO-SDK

Korean language support was added in the PR release of NITRO-SDK 4.0 PR. The methods described herein for creating South Korean-market applications cannot be used in earlier versions of the SDK.

Contact support@noa.com if you want to work with an older version of the NITRO-SDK.

4.4 Other Cautions

When the name and description of a game available for DS Download Play is indicated in Korean, it will not be displayed properly on global-market DS systems.

Since both South Korean-market and global-market DS systems are available in Korea, provide the name and description of any downloadable games in English.

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