

Revolution SDK

Document Roadmap

Version 1.1

2010/07/02

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and should be handled accordingly.**

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Revision History

Version	Revision Date	Description
1.1	2010/07/02	<ul style="list-style-type: none">Chapter 1 Introduction Added description of the Mastering Tools directory to Table 1-1.Chapter 2 Documents Needed During Revolution SDK Installation Added description of the Mastering Tools Quick Start Guide.Chapter 3 Documents Needed During Development Added descriptions of the Wii Save Data Specifications and the Strap Usage Screen Manual to point 8 Development Support.
1.0	2009/10/13	Initial version.

1 Introduction

This document is for developers of applications and drivers for the Wii (the Revolution platform). It explains the various documents contained in the Revolution SDK.

This document is divided into five chapters:

1. Introduction
2. Documents Needed During Revolution SDK Installation
3. Documents Needed During Development
4. Reference Documents
5. The Revolution SDK Development Environments

Chapter 3 categorizes the various documents in terms of how they relate to development and describes the content of each document. Chapter 5 introduces other development environments that supplement or expand the Revolution SDK.

The various documents are all stored within the `docs` directory. The table below shows the internal structure of this directory.

Table 1-1 Internal Structure of the `docs` Directory

Directory Name	Directory Content
Audio Programmer's Guide	Contains documentation for the AX library, the Sound Pipeline (SP), tools used by the libraries for sound development, and other audio-related documents.
Graphics Programmer's Guide	Contains documentation for the GX library, and for texture palettes, video output, and other graphics-related documents.
Guidelines	Contains documentation on precautions you must observe when creating your application.
Hardware Transition Guide	Contains documentation covering the differences with the Nintendo GameCube platform and how to transition from that platform.
License	Contains license information for the Roland GS sound set (Roland GM16) and Dolby Pro Logic II.
Mastering Tools	Contains documentation on mastering tools.
PMIC_Library_Guide	Contains documentation about VoiceChat icons. This directory also contains VoiceChat icons.
Programmer's Guide	Contains documentation on how to use the build system and key points about development of Wii applications.
Quickstart	Contains documentation about the file structure of Revolution SDK.
THP Library Guide	Contains documentation about the THP (movie) library.

2 Documents Needed During Revolution SDK Installation

This chapter explains the different documents needed when installing the Revolution SDK.

The various documents are stored within the `docs` directory.

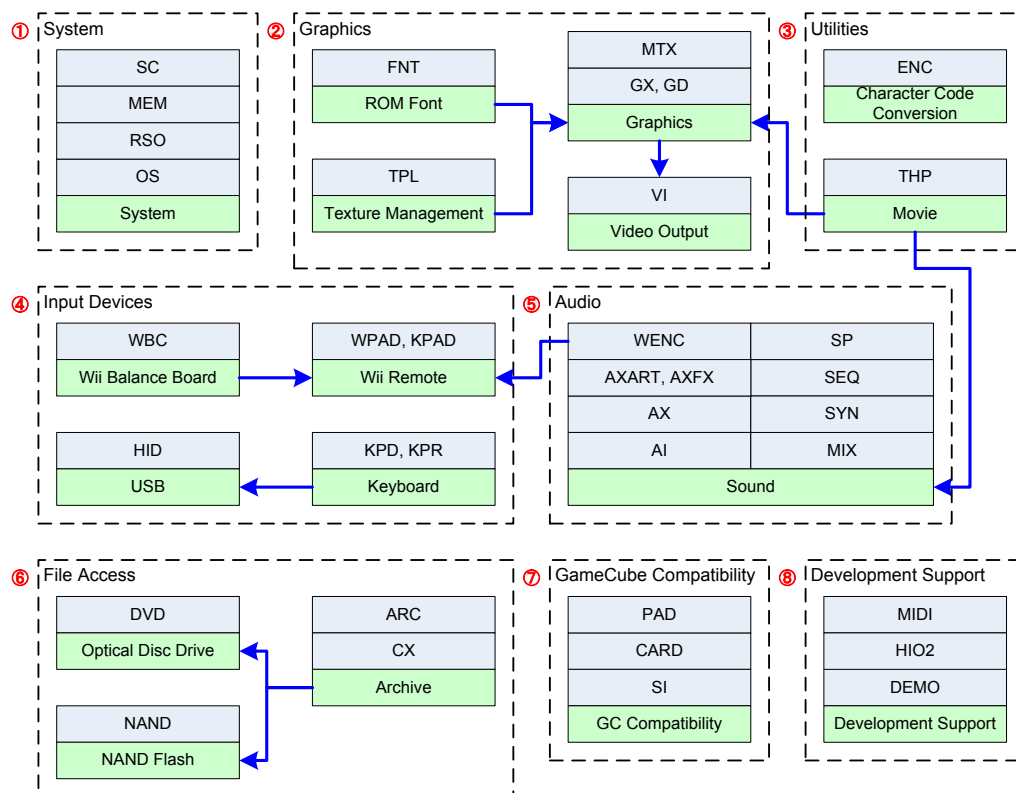
Table 2-1 List of Documents Needed When Installing

Document Name (filename)	Description
Revolution Transition Guide (RVL-Hardware TransitionGuide.pdf)	Describes differences with the Nintendo GameCube platform and the method of transitioning to the SDK. This document is for developers familiar with development on the Nintendo GameCube platform who are thinking of transitioning from the Nintendo GameCube.
RevolutionSDK Roadmap (RVL-SDK-RoadMap.pdf)	Describes the file structure of the Revolution SDK. This document is for developers using Revolution SDK to develop applications.
Build System (RVL-BuildSystem.pdf)	Describes the build system for Revolution SDK. This document is for developers using Revolution SDK to develop applications.
Mastering Tools Quick Start Guide (QuickStartGuide.pdf)	Describes mastering-related tools such as makemaster, which is a tool for creating RVM files (Wii disk image files). This document is for developers using Revolution SDK to develop applications.

3 Documents Needed During Development

This chapter explains the different library documents that are needed for development, with the libraries divided into categories.

Figure 3-1 Libraries by Category



The various documents are stored within the `docs` directory. You may also want to reference other information, including the Function Reference (within the `man` directory), the Programming Manuals (in the Programming Manual package), and the various guidelines (within the various Guidelines packages), as needed.

1. System

This category includes libraries for the operating system and memory management, and other libraries needed for the development of applications that run on the Wii console.

Related documentation is stored in the `Programmer's_Guide` directory.

Document Name (filename)	Description
Operating system library (OS.pdf)	This describes the operating system required to create applications. This document is for programmers of drivers and applications.
Reset / Shutdown (Reset_Shutdown.pdf)	Describes the tasks that should be performed when resetting and shutting down. This document is for programmers of applications.

2. Images

This category includes the GX and GD graphics libraries, which provide an interface between the programmer and the Wii console's graphics processing chip, the matrix-vector MTX library, the TPL library useful for texture management, the FNT library, which provides ROM fonts and an interface, and the VI library, which determines the video that is ultimately output.

Related documentation is stored mainly in the `Programmer's_Guide` directory.

Document Name (filename)	Description
Graphics library (GX.pdf)	Describes the procedures and methods needed to display graphics on the Wii, centering on a description of the GX library. This document is for programmers of graphics in applications.
Video Interface Library (VI.pdf)	Describes the Video Interface (VI) library for video output, covering everything from the basic programming flow to advanced methods of use. This document is for application programmers, screen layout designers, and those considering expanding into overseas markets.
Texture Palette Library (TPL.pdf)	Describes how to use the TPL library for accessing TPL files used in the SDK's sample demos, and how to use the tool for creating TPL files. This document is for application programmers and creators of texture engines.
Matrix vector library (MTX.pdf)	Describes procedures for programming using the MTX library, which is a collection of matrix types and vector operation functions also used in the GX library. This document is for programmers of 3D graphics engines.
Graphics Library [Applied] (Advanced_GX.pdf)	Describes how to produce graphics procedures for environment mapping and bump mapping on the Wii, and also how to use the Wii's own features to express graphics. This document is for programmers of 3D graphics engines.
Compressed Texture Format (CMPR_Texture.pdf)	Describes the compressed texture format (S3TC) supported by Wii hardware. This document is for creators of texture images.
2D Graphics Library (G2D.pdf)	Describes how to use the G2D library, which is used to express tile-based 2D graphics. This document is for creators of 2D applications.

3. Utilities

This category includes libraries needed for movies (THP), character code conversion (ENC), and other aspects of multimedia, and the actions needed for other libraries.

Related documentation is stored in the `THP_Library_Guide` directory.

Document Name (filename)	Description
THP Library (THP.pdf)	Describes procedures for programming to play specialized THP movies on the Wii. This document is for application programmers, game designers, and those considering video playback on the Wii.

4. Input Devices

This category includes libraries that provide interfaces for the Wii Remote, Controllers attached to the Wii Remote, and devices connected to the Wii USB ports.

Related documentation is stored in the `Programmer's_Guide` directory.

Document Name (filename)	Description
Wii Balance Board Programming Manual (WBC.pdf)	Describes information required to develop applications for the Wii Balance Board. This document is for programmers of applications that support the Wii Balance Board.
KBD Library Supplemental Manual (Wii_USB_KBD.pdf)	Describes keyboard layouts in different market regions for USB keyboards supported by the USB Keyboard library. This document is for programmers of applications that support USB keyboards.

5. Audio

This category includes the AI and AX libraries, which provide the interfaces between voice data and the DSP (digital signal processor) and DAC (digital analog converter), and the audio application libraries for AUX effects like reverb and chorus, the mixer, and the synthesizer.

Related documentation is stored in the `Audio_Programmer's_Guide` directory.

Document Name (filename)	Description
Audio Library (AX.pdf)	Describes the operations of the AX library, which controls the DSP and audio resources that comprise the Wii's audio system. This document is for creators of sound drivers.
AX Applications (AX_Applications.pdf)	Describes how to use the audio application libraries for AUX effects, MIDI sequencers, mixers, synthesizers, and audio regulators, and also describes how they work. This document is for creators of sound drivers and composers of music using MIDI sequences.
AX Sound Pipeline (SoundPipeline.pdf)	Describes procedures and programming methods for the full range of sound pipeline tasks, from producing and converting sound effects to using them. This document is for designers of sound effects, creators of their own sound conversion tools, and creators of sound drivers.
DSPADPCM (DSPADPCM.pdf)	Describes the data format for the Wii audio system and how to use the conversion tool. This document is for designers of sound effects, creators of their own sound conversion tools, and creators of sound drivers.
DSPTOOL.DLL (DSPTOOLDLL.pdf)	Describes the dynamic link library (DLL) for creating conversion tools for data for the Wii audio system on Win32. This document is for creators of their own sound conversion tools.

6. File Access

This category includes libraries for accessing the Wii console's built-in optical disc drive and NAND flash memory and for bundling multiple files together and compressing them.

Related documentation is stored in the `Programmer's_Guide` directory.

Document Name (filename)	Description
Disk Drive Library (DVD.pdf)	Describes the optical disc drive, media structure, and how to use the disc drive. This document is for application programmers.

7. Nintendo GameCube Compatibility

This category includes the Nintendo GameCube Controller (PAD) library, the Serial Interface (SI) library that is below the PAD library, the Expansion Port (EXT) library for accessing Memory Cards, as well as other libraries for using Nintendo GameCube devices on the Wii.

Related documentation is stored in the `Programmer's_Guide` directory.

Document Name (filename)	Description
Nintendo GameCube Controller Library (PAD.pdf)	Describes how to use Nintendo GameCube Controller as an input device on the Wii. This document is for those considering transitioning from the Nintendo GameCube and programmers of applications that use Nintendo GameCube Controllers.

8. Development Support

This category includes the MIDI library for playing sounds on the Wii using a MIDI adapter, the DEMO library that shares the use of sample demos, the HIO2 library for sending and receiving files by communicating with a PC, and other libraries which support the development of Wii applications.

Related documentation is stored in the `Programmer's_Guide` directory or the `Guidelines` directory.

Document Name (filename)	Description
Hio2If Programming Manual (Hio2If.pdf)	Explains how to use the HIO2 library to control communication with a PC. This document is for programmers of applications for debugging by communicating with tools on a PC.
Icon & Banner Specifications (IconBanner.pdf)	Explains how to create the icons for display in the Channel list in the Wii Menu and the banners for display on the Channel preview screen. This document is for creators of icons and banners.
Wii Save Data Specifications (Wii_SaveData.pdf)	Explains the software and precautions for creating save data for Wii applications. This document is for developers working with save data.
Strap Usage Screen Manual (Wii_Strap_Zapper_Reminder.pdf)	Explains how to display the controller-specific screen when starting up the application. The controller-specific screen prompts the user to wear the Wii Remote strap or how to hold the Wii Zapper. The content of the screen depends on the accessory to be used. This document is for application developers.

4 Reference Documents

This chapter describes documentation that is provided as reference materials.

The various documents are stored within the `License` directory in the `docs` directory.

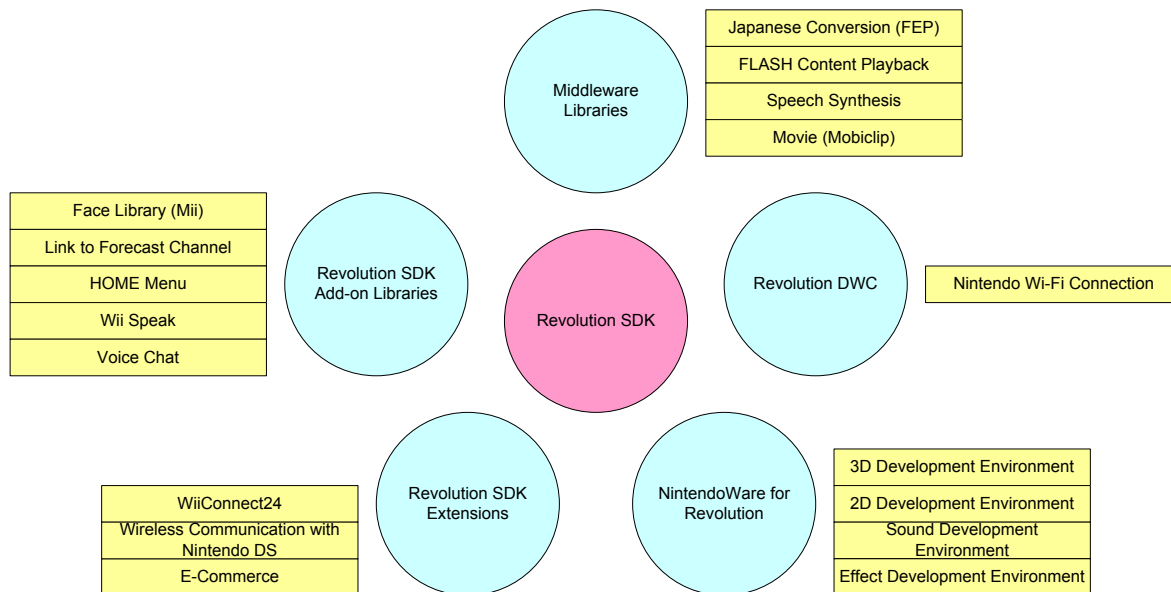
Table 4-1 List of Reference Documents

Document Name (filename)	Description
Using Dolby Pro Logic II with the Wii (DPL2_for_Wii_E.pdf)	Describes Dolby Pro Logic II and how to use the logo and trademark. This document is for developers of game content using Dolby Pro Logic II interactive encoding for surround sound.
When using Dolby Pro Logic II (GameCube_Developer_Letter_New.pdf)	Contains information about the contract with Dolby Laboratories Inc. that is required in order to use Dolby Pro Logic II in applications. This document is for developers of game content using Dolby Pro Logic II interactive encoding for surround sound.
License from Roland Corporation for the Roland GS Soundset and Related Trademarks (Roland_END-USER LICENSE AGREEMENT.pdf)	Contains information about the end-license agreement with Roland Corp. that is required in order to use the Roland GS Soundset in applications. This document is for developers of game content using the Roland GS Soundset.
Contact information for Roland (Roland_contact_info.txt)	Ways to contact Roland in other regions about end-license agreements and development support.

5 The Revolution SDK Development Environments

Nintendo provides separate development environments that assist in the development of applications with Revolution SDK and expand the Revolution SDK for other objectives, such as connecting to Nintendo Wi-Fi Connection.

Figure 5-1 Revolution SDK Development Environment



- **Additional Revolution SDK Libraries**

Provides indispensable libraries for applications like a HOME Menu button, libraries for Wii Speak and other special peripheral devices, and libraries needed for linking with the Wii Channel and other such services offered by Nintendo.

- **Revolution SDK Extensions**

A library group for using WiiConnect24 and e-commerce (online payments and content downloads), and for conducting wireless communication with the DS.

- **Revolution DWC**

A library group for connecting to Nintendo Wi-Fi Connection and using online content.

- **NintendoWare for Revolution**

A useful framework for application production, with a library group and tools to convert data from general-purpose 3D modeling software, edit 3D models and 3D animations, create screen layouts, manage sounds, manage explosions and other graphic effects, and so on.

- Middleware Libraries

Libraries that enable technologies provided by companies other than Nintendo to be used on the Wii, such as ATOK for Japanese-language conversion and Mobiclip for movie playback. Separate licenses are required to use some of these libraries: to obtain these, contact support@noa.com.

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