NintendoWare for CTR

NintendoWare Overview

2010/12/13

Version 1.4

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PROVISIONAL TRANSLATION

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1 **Introduction**

NintendoWare for CTR is the collective name for the tools and libraries used to develop graphics and sounds for CTR game software. These have been developed to provide game developers with basic tools and libraries widely used in game software, allowing the developers to focus on creating the game itself.
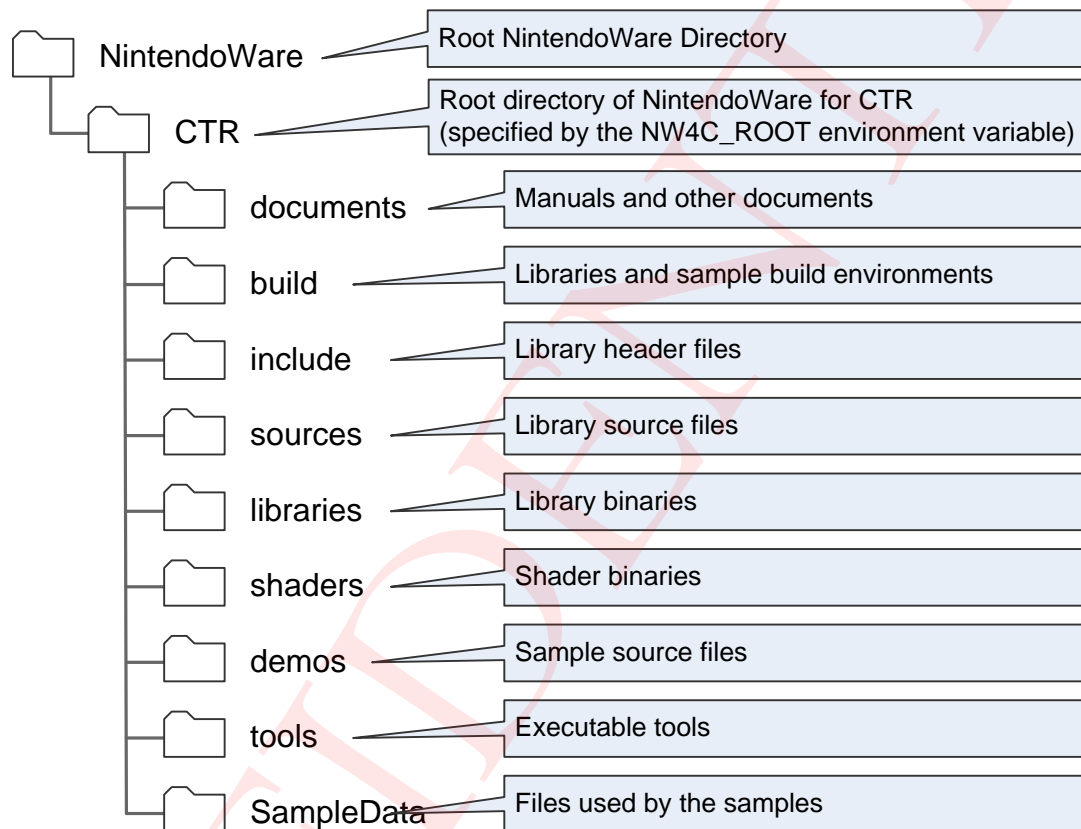
This document gives an overall view of the NintendoWare for CTR package by outlining the tools and libraries that it provides.

This document abbreviates "NintendoWare for CTR" as "NintendoWare" except when it is emphasizing CTR features.

2 **Folder Structure**

The applications and libraries provided by NintendoWare for CTR are all installed in the NintendoWare¥CTR folder. Figure 2-1 shows the folder structure of NintendoWare for CTR.

Figure 2-1 Directory Structure

Folder	Description
NintendoWare	Root NintendoWare Directory
CTR	Root directory of NintendoWare for CTR (specified by the NW4C_ROOT environment variable)
documents	Manuals and other documents
build	Libraries and sample build environments
include	Library header files
sources	Library source files
libraries	Library binaries
shaders	Shader binaries
demos	Sample source files
tools	Executable tools
SampleData	Files used by the samples

3 Tools Overview

Three tools have been prepared for NintendoWare: NintendoWare CreativeStudio, which integrates various graphics-related editors; Nintendoware Layout Editor, which is used to create 2D layout data; and NintendoWare SoundMaker, which is used to edit sound resources.

3.1 NintendoWare CreativeStudio

NintendoWare CreativeStudio, an integrated tool for creating resources used in-game, has been prepared for NintendoWare. By handling various graphics-related resources at once, CreativeStudio allows you to link a variety of features.

Currently, CreativeStudio can perform the following operations.

- Edit materials for 3D models
- Create effects

3.2 NintendoWare LayoutEditor

NintendoWare LayoutEditor creates layout display screens using 2D graphics for CTR games.

LayoutEditor can create 2D screens by arranging texture boxes, windows, and pictures (collectively called "panes") that are commonly used. These panes also allow you to easily create animations that change the picture color and display position.

3.3 NintendoWare SoundMaker

NintendoWare Soundmaker, a tool for creating sound resources, has been prepared for NintendoWare. Nintendo plans to release AnimSoundMaker, a tool for creating sound playback timing data linked to a graphics animation.

3.4 NintendoWare GraphicsViewer

GraphicsViewer is for checking to see how graphics display on the CTR. It is a provisional tool that does not fully support all GraphicsLibrary rendering.

3.5 NintendoWare FontConverter

FontConverter is a Windows application for creating font resources (.bcfnt / .bcfna) for use with NintendoWare. The .bcfnt and .bcfna files are used as fonts to draw text on the CTR.

3.6 Tool Operating Environment

The tools provided by NintendoWare have been confirmed to work on Microsoft Windows XP Service Pack 2. You need Microsoft .NET Framework 3.5 Service Pack 1 to use the various GUI tools

provided with NintendoWare.

Because the NintendoWare package does not include Microsoft .NET Framework 3.5 SP 1, you need to install it separately if it has not already been installed on your development computer. Note that operations are not guaranteed for versions of the .NET Framework other than 3.5 SP 1. An application error will occur and the NintendoWare tools will fail to run if they are started on a computer that does not have .NET Framework 3.5 SP 1 installed. In this situation, first confirm that .NET Framework 3.5 SP 1 has been installed on your computer.

To check whether .NET Framework 3.5 Service Pack 1 has been installed, select **Add or Remove Programs** from the Windows Control Panel. Confirm that "Microsoft .NET Framework 3.5 SP1" is included in the list of currently installed programs.

4 Library Overview

4.1 Library Packages

The NintendoWare libraries are largely divided into four library packages. Table 4-1 shows features provided by each of the four library packages.

Table 4-1 Types of Library Packages

Package Name	Provided Features
SystemLibrary	Debugging and utilities
GraphicsLibrary	Rendering graphics
LayoutLibrary	Rendering 2D layouts
SoundLibrary	Playing sound effects and background music

4.1.1 SystemLibrary

The system library provides utilities with features that include number calculation and debugging.

4.1.2 GraphicsLibrary

The graphics library provides processing to render particles and 3D models, play animations, and so on using the graphics processors supported by NintendoWare.

4.1.3 LayoutLibrary

This library takes layout data created by LayoutEditor and displays it on a CTR system.

4.1.4 SoundLibrary

The sound library is used for game sound programming. You can use the sound library to take sound data created with SoundMaker and play it back on a game system easily.

4.2 Library Programming Languages

The NintendoWare libraries are written in the C++ programming language. You need a C++ compiler to use the NintendoWare libraries. Currently, the NintendoWare libraries have been confirmed to build under the following environment.

- Microsoft Visual Studio 2008 SP1
- RVCT for Nintendo4.0 (ARM compiler)

5 **Revision History**

Version	Revision Date	Category	Description
1.4	2010/12/13	Changed	• 3.3 NintendoWare SoundMaker Deleted text about linking with CreativeStudio, and added note about pending release of AnimSoundMaker.
1.3	2010/07/29	Changed	• Revised document format.
1.2	2010/05/14	Changed	• 3 Tools Overview Added GraphicsViewer FontConverter. • 2 Directory Structure Added SampleData. • 4 Library Overview Deleted text related to PC-SDK. • Overall Replaced the term "directory" with the term "folder."
1.1	2009/11/06	Changed	• 3.4 Tool Operating Environment Revised content. • 4 Library Overview Added a description of the PC-SDK. • 4.3 Library Programming Languages Added "RVCT for Nintendo4.0" as the build environment.
1.9	2009/10/30	-	• Initial version.

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