NintendoWare for CTR Overview

2011/02/28

Version 2.0

PROVISIONAL TRANSLATION

The content of this document is highly confidential and should be handled accordingly.

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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. NintendoWare for CTR has been developed to provide CTR software developers with tools and libraries widely used in game software so developers can focus on game creation itself.

This document provides an overall view of the NintendoWare for CTR package, including an outline of its tools and libraries.

In this document, NintendoWare for CTR is abbreviated as NW4C.

2 NW4C Structure

2.1 Development Environment

NW4C provides the following four major development environments.

- 3D development environment
- 2D development environment
- Effect development environment
- Sound development environment

Broadly categorized, these development environments consist of Windows applications that create data, converters that convert data created by the application to be used for CTR, and libraries for playing data converted by the converter for CTR.

2.2 3D Development Environment

For the 3D development environment, NW4C provides a group of tools for creating 3D binary data for CTR from models and animations created using popular 3DCG software software, such as Maya, 3dsMax, and Softimage, and libraries for rendering 3D model and playing animation on CTR systems.

The 3D development environment consists of the following.

- Graphics library (gfx)
- NW4C 3DEditor
- Plug-in for 3DCG tools (Maya/3dsMax/Softimage)
- Photoshop plug-in
- Converter
- Viewer

Figure 2-1 NW4C 3DEditor

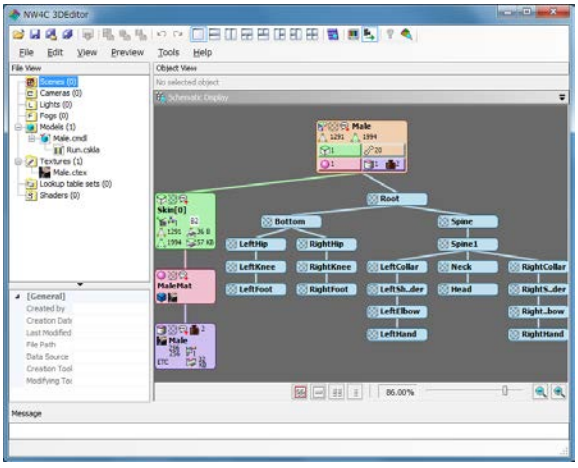
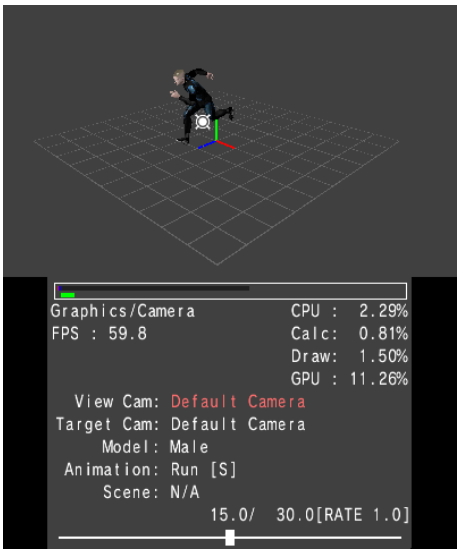


Figure 2-2 Viewer (3D Mode)



For information on the 3D development environment, see the *3D Development Environment Overview* (`3D_Overview.pdf`).

2.3 2D Development Environment

For the 2D development environment , NW4C provides a group of tools required to create 2D layout data for CTR and libraries for reproducing the layouts on CTR systems, based on the layout data created.

The 2D development environment consists of the following.

- Layout library (lyt)
- NW4C LayoutEditor
- Photoshop plug-in
- Converter
- Viewer

Figure 2-3 NW4C LayoutEditor

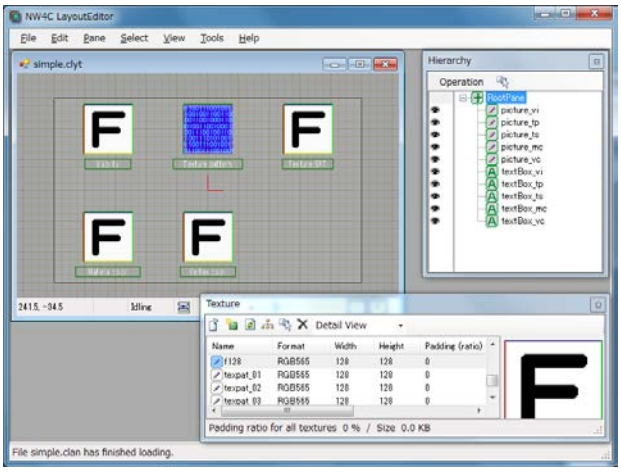
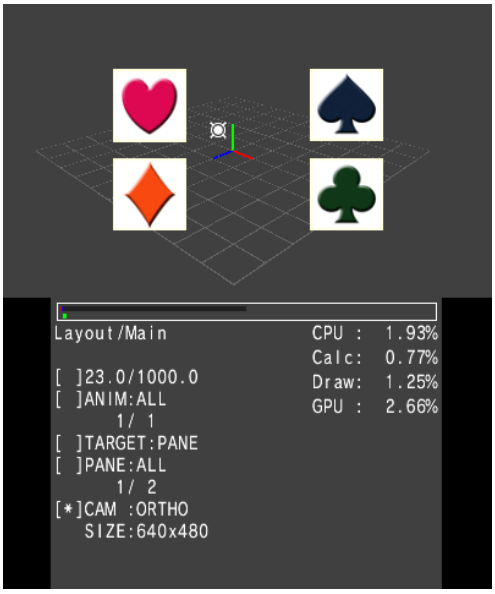


Figure 2-4 Viewer (Layout Mode)



For information on the 2D development environment, see the *2D Development Environment Overview* (`2D_Overview.pdf`).

2.4 Effect Development Environment

For the effect development environment , NW4C provides a group of tools for creating effect data for CTR and a library for reproducing effects on CTR systems using that effect data.

The effect development environment consists of the following.

- Graphics library (gfx)
- NW4C EffectMaker
- Converter
- Viewer

Figure 2-5 2-1 NW4C EffectMaker

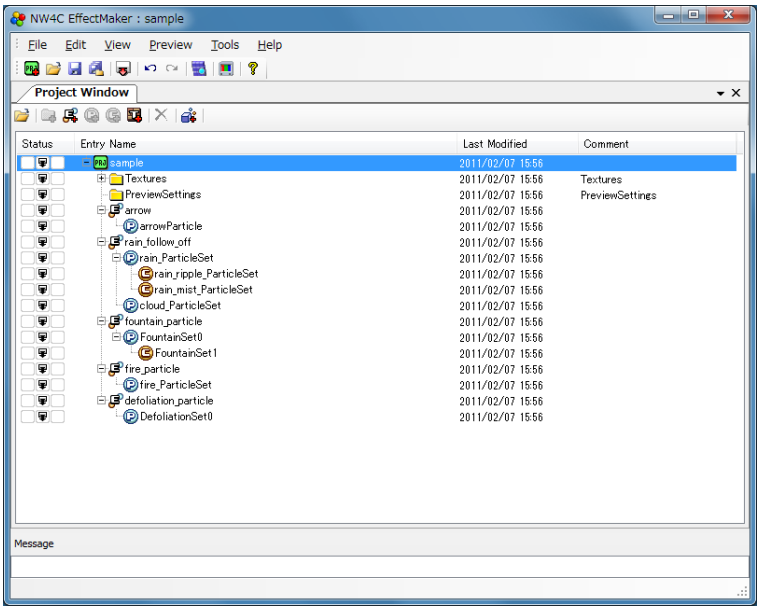
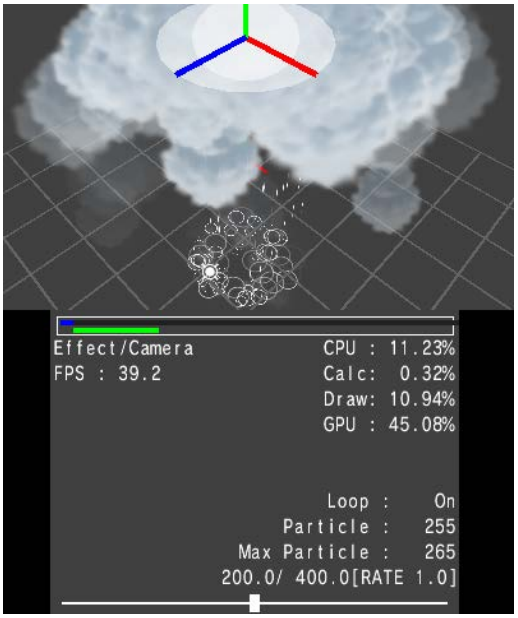


Figure 2-6 Viewer (Effect Mode)



For information on the effect development environment, see the *Effect Development Environment Overview* (`Effect_Overview.pdf`).

2.5 Sound Development Environment

The sound development environment is used to carry out sound development for CTR game software.

The sound development environment, NW4C provides a group of tools for creating sound data for CTR from data created using standard sequencer software and wave file editing software, and a library for playing that sound data.

The sound development environment consists of the following.

- Sound library (snd)
- NW4C SoundMaker
- Converter
- SoundPlayer
- Viewer

Figure 2-7 NW4C SoundMaker

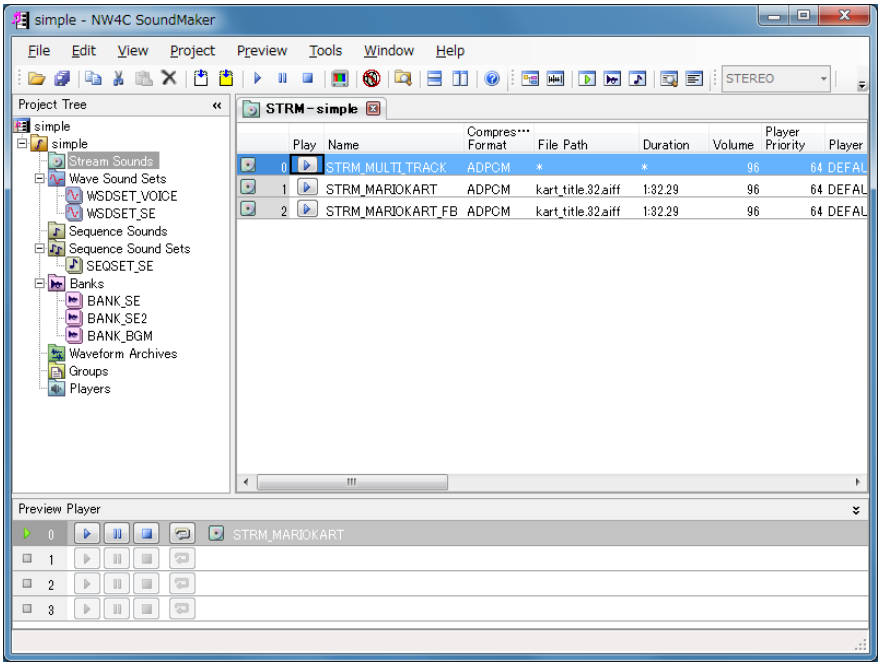
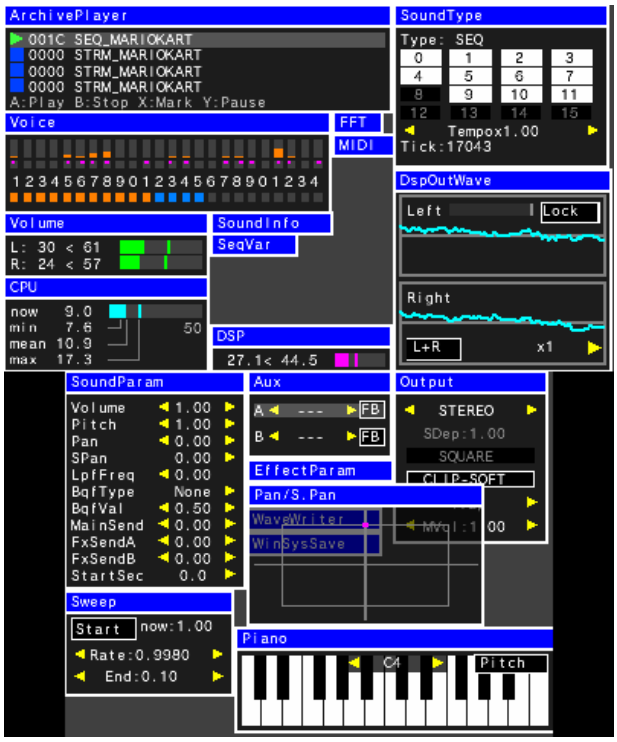


Figure 2-8 Viewer (Sound Mode)



For information on the sound development environment, see the *Sound Development Environment Overview* (`Sound_Overview.pdf`).

3 Runtime Library Overview

3.1 Runtime Library Configuration

Broadly categorized, the NW4C runtime library consists of the following four libraries.

Table 3-1 Runtime Library Configuration

Library Name	Library Content
Graphics library	Library for 3D graphics and effects
Layout library	Library for 2D layouts
Sound library	Library for sound
System library	Library for utilities and debugging

3.2 Library Coding Language

The NW4C runtime library has been written in C++. The supported compiler is RVCT for Nintendo.

3.3 Build Environment

The following tools and environment are required to build and debug applications that use NW4C.

- CTR-SDK
- PARTNER-CTR
- Cygwin
- OMake

3.4 Library Source Code

Source code for the NW4C runtime library is included in the NW4C package. Note, however, that operations cannot be guaranteed if source code for the NW4C runtime library is modified.

3.5 Sample Demos

A sample demo has been prepared for each runtime library.

Sample demo source code can be found in the following folder.

`NintendoWare\CTR\demos`

For a description of sample demos, see the function reference (`NintendoWare\CTR\documents\API\index.html`)

3.5.1 NW4C Sample Demos

In addition to sample demos for each library, an NW4C sample demo that simultaneously uses 3D graphics, 2D layouts, and effects has been prepared.

The NW4C sample demo source code can be found in:

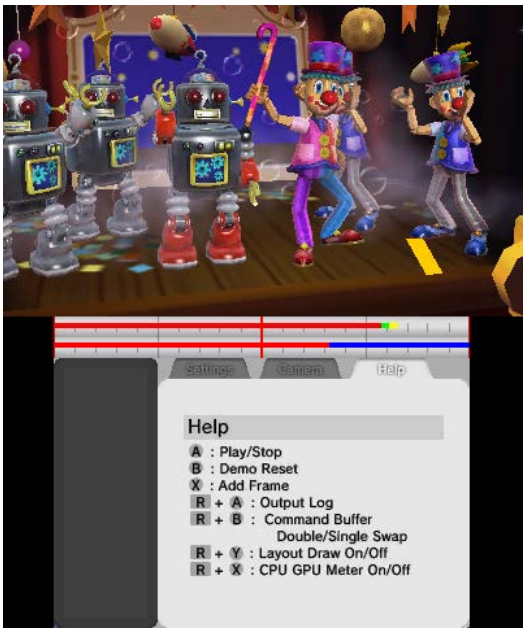
`NintendoWare\CTR\demos\Nw4cDemo`

Data used by the NW4C sample demo can be found in:

`NintendoWare\SampleData\Nw4cDemo`

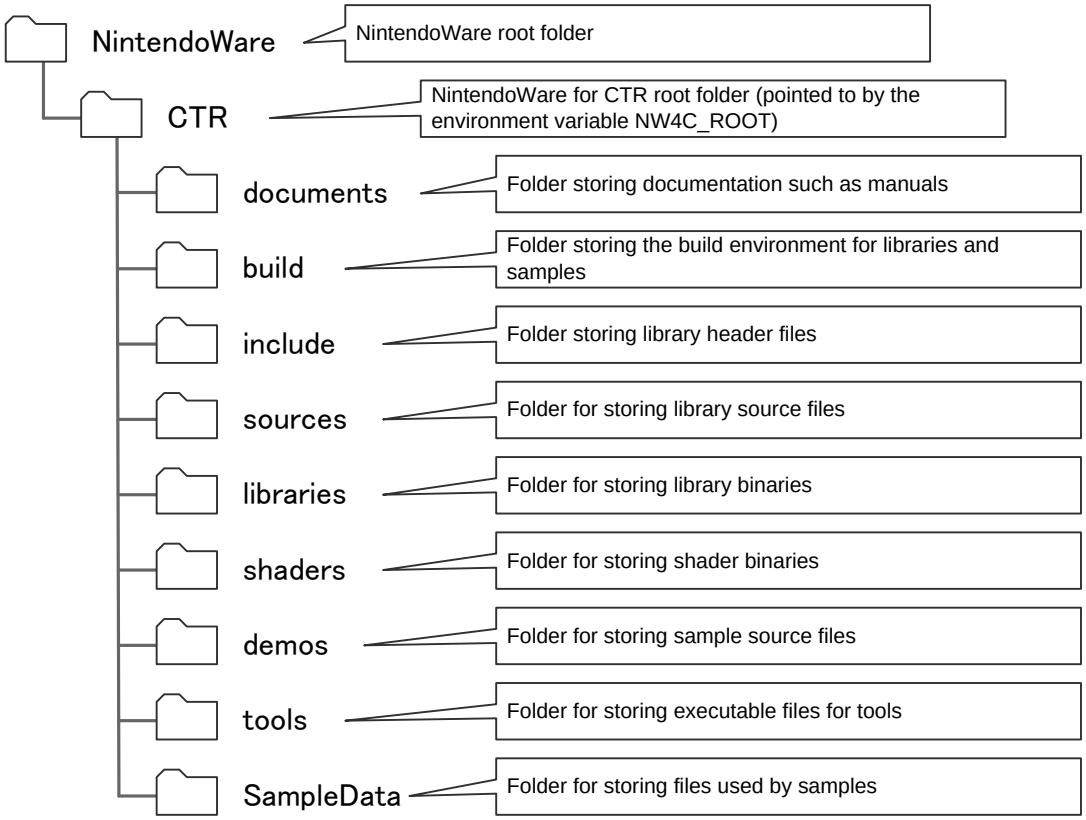
For a description of the NW4C sample demo, see the function reference: (`NintendoWare\CTR\documents\API\index.html`)

Figure 3-1 NW4C Sample Demo



4 Folder Structure

When you install NW4C, the NintendoWare\CTR folder is created and it contains all the application and libraries provided with NW4C. The folder structure of NintendoWare for CTR is shown below.



Revision History

Version	Revision Date	Category	Description
2.0	2011/02/28	Added	Revised entire document.
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.