NintendoWare for CTR

c3es File Format User's Guide

2010/10/25

PROVISIONAL TRANSLATION

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

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1 Introduction

The c3es (**C**TR **3**D **E**xport **S**ettings) file is a text file that contains the option settings for the 3D DCC tool export plug-ins provided by NintendoWare forCTR.

These c3es files can be both input to and output from the export plug-ins.

These files share a common format that is not dependent on the 3D DCC tool.

Every c3es file is named with the extension `.c3es`.

2 c3es File Format

2.1 c3es File Structure

The r3es file is composed of arguments that describe the keywords and the details of the settings of the export plug-in options.

Lines that begin with the # (hash mark or pound sign) are comment lines. These lines are ignored when the c3es file is input to an export plug-in.

The comment lines shown in Chapter 4 Example c3es File, are always output.

2.2 c3es File Authentication

The c3es file must always begin with a comment line as the first line. A comment line begins with the # symbol followed by a space. The comment appears following the space.

For example:

```
# NW4C_Export settings
```

Note: The # symbol is separated by one space from the rest of the comment line.

An error occurs if the first line is invalid.

2.3 List of Keywords

Table 2-1 List of Keywords

Keyword	Description	Example
NW4C_Export settings		
SettingsVersion	Version of c3es file format. Text string.	SettingsVersion="1.2.0”
GeneratorName	Name of the export plug-in. Text string (same format as intermediate file).	GeneratorName="Maya 2010 NW4C_Export"
GeneratorVersion	Version of the export plug-in. Text string (same format as intermediate file).	GeneratorVersion ="1.2.0"
Date	Date c3es file was created. Text string (same format as intermediate file).	Date="2010-01-18T10:00:00"

Keyword	Description	Example
Output Options		
ProcessMode	Output mode. [Single, AnimationRange]	ProcessMode =" Single"
ExportTarget	Export target. [All, Selection]	ExportTarget ="all"
OutputFileName	Export file name. Character string.	OutputFileName="output"
OutputMode	Export mode. [File, CreativeStudio]	OutputMode="CreativeStudio"
OutputFolder	Location of export target folder where output is going. Text string.	OutputFolder="C:/data/"
MergeCmdl	Flag for rmdl merge. [true, false]	MergeCmdl="true"
MergeCmdlPath	Location of cmdl to merge. Character string.	MergeCmdlPath="C:/data/test.cmdl"
General Options		
Magnify	Magnification to apply to model. Floating point number.	Magnify="1.0"
FrameRange	Target range for exported frames. [All, Playback, Range]] Note: The value “Playback” is exported only from Maya.	FrameRange="all"
StartFrame	Start frame. Integer.	StartFrame="1"
EndFrame	End frame. Integer.	EndFrame="9999"
RemoveNamespace (Output from Maya only.)	Namespace deletion flag [true, false]	RemoveNamespace="false"

Keyword	Description	Example
Output File Selection		
OutputCmdl	cmdl file export flag. [true, false]	OutputCmdl="true"
OutputCtex	ctex, rplt file export flag. [true, false	OutputCtex="true"
OutputCmdla	cmdla file export flag. [true, false]	OutputCmdla="true"
OutputCskla	cskla file export flag. [true, false]	OutputCskla="true"
OutputCmata	cmatafile export flag. [true, false]	OutputCmata="false"
OutputCcam	Ccam file export flag. [true, false]	OutputCcam="true"
OutputClgt	clgtfile export flag. [true, false]	OutputClgt="false"
OutputCenv	cenv file export flag. [true, false]	OutputCenv="true"
Optimization Options		
CompressNode	Node-compression mode for overall model. [None, Cull, CullUninfluential, UniteCompressible, UniteAll, UniteBelow]	CompressNode="None"
CompressMaterial	Flag for material compression. [true, false]	CompressMaterial="false"
OptimizePrimitive	Flag for optimization of primitives. [true, false]	OptimizePrimitive="false"
ConvertToModel	Flag for converting to model. [true, false]	ConvertToModel ="false"
Quantization Options		
QuantizePos	Precision of vertex coordinates when converting to binary data. [Float, Short, Byte]	QuantizePos="Float"
QuantizeNrm	Precision of normal when converting to binary data. [Float, Short, Byte]	QuantizeNrm="Float"
QuantizeTex	Precision of texture coordinates when converting to binary data. [Float, Short, Byte]	QuantizeTex="Float"
AdjustSkinning	Hot to determine skinning mode to export. [true, false]	AdjustSkinning ="true"
MeshVisibilityMode	How to apply visibility animation. [BindByIndex, BindByName]	MeshVisibilityMode ="BindByName"

Keyword	Description	Example
Model Options		
NonUniformScale	Flag indicating whether lighting can be applied correctly to model unequal XYZ scales. [true, false]	NonUniformScale="true"
MaxReservedUniformRegisters	Number of reserved uniform registers. [0 - 60]	MaxReservedUniformRegisters ="20"
Animation Options		
BakeAllAnim	Flag for baking entire animation. [true, false]	BakeAllAnim="true"
FramePrecision	Frame precision when animation curve data is created automatically. [1.0, 0.5, 0.2, 0.1]	FramePrecision=″1.0″
LoopAnim	Flag for animation looping. [true, false]	LoopAnim="true"
FrameFormat	Flag for saving animation to binary data in frame format. [true, false]	FrameFormat="false"
ScaleQuantizeQuality	Precision when converting the bone's Scale animation into binary data. [0-9]	ScaleQuantizeQuality="9"
RotateQuantizeQuality	Precision when converting the bone's Rotate animation into binary data. [0 - 9]	RotateQuantizeQuality="9"
TranslateQuantizeQuality	Precision when converting the bone's Translate animation into binary data. [0 - 9]	TranslateQuantizeQuality="9"
Tolerance Options		
ToleranceScale	Tolerance for bone Scale animation. Floating point number.	ToleranceScale=″0.1″
ToleranceRotate	Tolerance for bone Rotate animation. Floating point number.	ToleranceRotate=″0.1″
ToleranceTranslate	Tolerance for bone Translate animation. Floating point number.	ToleranceTranslate=″0.01″
ToleranceTexScale	Tolerance for the texture SRT animation's Scale value. Floating point number.	ToleranceTexScale="0.1"
ToleranceTexRotate	Tolerance for the texture SRT animation's Rotate value. Floating point number.	ToleranceTexRotate="0.1"
ToleranceTexTranslate	Tolerance for the texture SRT animation's Translate value. Floating point number.	ToleranceTexTranslate="0.01"
ToleranceColor	Tolerance for color animation's color values and alpha value. Floating point number.	ToleranceColor="0.001"

Supplemental information:

Keyword names do not overlap.

Data is output in the same order in which the keywords are shown in the table.

In describing the values for OutputFolder, the “/” symbol is used as the path delimiter.

Output is optional for the decimal fraction part of the floating point number.

3 Loading and Saving c3es Files

3.1 Exporting from Export Plug-Ins

All items configured in the options window of the export plug-ins (including shaded items) can be exported to the c3es file.

3.2 Importing to Export Plug-Ins

When an c3es file is imported to the export plug-ins, only those keywords and arguments that are correctly configured in the file are reflected in the option settings of the export plug-ins. Keywords are ignored if they or their associated arguments are configured incorrectly.

If the FrameRangekeyword is set to “Playback” in the c3es file but the 3D DCC tool does not support the notion of playback, the keyword will be interpreted as set to “All” when the file is imported to the tool.

4 Example c3es File

Here is an example of an c3es file as exported from Maya 2008:

```
# NW4C_Export settings
SettingsVersion="1.2.0"
GeneratorName="Maya 2010 NW4C_Export"
GeneratorVersion="1.1.0"
Date="2010-10-23T14:59:59"

# Output Options
ProcessMode=”Single”
ExportTarget="All"
OutputFileName="out"
OutputMode="File"
OutputFolder="C:/data/"
MergeCmdl="false"
MergeCmdlPath=""

# General Options
Magnify="1.0"
FrameRange="All"
StartFrame="1"
EndFrame="100"
RemoveNamespace="false"

# Output File Selection
OutputCmdl="true"
OutputCtex="true"
OutputCmdla=”false”
OutputCskla="false"
OutputCmata="false"
OutputCcam="false"
OutputClgt="false"
OutputCenv="false"

# Optimization Options
CompressNode="None"
CompressMaterial="false"
OptimizePrimitive="true"
ConvertToModel="true"
```

```
# Quantization Options
QuantizePos="Float"
QuantizeNrm="Float"
QuantizeTex="Float"

# Model Options
AdjustSkinning="None”
MeshVisibilityMode="BindByIndex”
NonUniformScale="false"
MaxReservedUniformRegisters="0"

# Animation Options
BakeAllAnim="true"
FramePrecision="1.0"
LoopAnim="false"
FrameFormat="false"
ScaleQuantizeQuality="9”
RotateQuantizeQuality="9”
TranslateQuantizeQuality="9”

# Tolerance Options
ToleranceScale="0.1”
ToleranceRotate="0.1”
ToleranceTranslate="0.01”
ToleranceTexScale="0.1”
ToleranceTexRotate="0.1”
ToleranceTexTranslate="0.01”
ToleranceColor="0.001”
```

5 Revision History

Version	Revision Date	Description
1.2.0	2010/10/25	• Added AdjustSkinning • Added MeshVisibilityMode • Deprecated QuantizeQuality • Added ScaleQuantizeQuality • Added RotateQuantizeQuality • Added TranslateQuantizeQuality • Added ToleranceTexScale • Added ToleranceTexRotate • Added ToleranceTexTranslate • Added ToleranceColor
1.1.0	2010/10/01	• Added ProcessMode • Added OutputCmdla • Added QuantizeQuality • Deprecated BinPrecisionScale, BinPrecisionRotate and BinPrecisionTranslate
0.9.0	2010/07/15	• Added OutputMode
0.8.0	2010/06/21	• Moved the Quantization Options `Frame Format`, `Translate Precision`, `Rotate Precision`, `Scale` and `Precision` to the Animation Options. • Added `UniteAll` and `UniteBelow` to the contents of CompressNode. • Added `OutputCcam` and `OutputCenv`. • Addded `MaxReservedUniformRegisters`, • Added `CompressMaterial` and `ConvertToModel`. • Changed `OutputClit` to `OutputClgt`
0.7.0	2010/05/14	• Changed SettingsVersion to 0.7.0. • Added `MergeCmdl`, `MergeCmdlPath`, `OutputCmata` and FrameFormat • Added `CullUninfluential` and `UniteCompressible` to the contents of CompressNode.
0.5.0	2010/02/12	• Initial version