SampleUtil Library Overview

PlayStation®Vita Programmer Tool Runtime Library Release 3.50

Document serial number: 000004892117

Table of Contents

1 Library Overview

Scope of This Document

This document describes the SampleUtil library, which is the utility library used by the sample programs.

Purpose and Features

The SampleUtil library improves the readability of the source code by providing a common processing procedure for applications. It also offers common frequently used functions, such as rendering, controller, and touch input functions, for applications.

Embedding into a Program

The SampleUtil library is provided as buildable source code in the following directories.

- %SCE_PSP2_SAMPLE_DIR%\sample_code\common\include\sampleutil
- %SCE_PSP2_SAMPLE_DIR%\sample_code\common\source\sampleutil

To use the SampleUtil library, add the following project files to the solution file.

- %SCE_PSP2_SAMPLE_DIR%\sample_code\common\source\sample_utilities_cpp\libSceSampleUtil.vcxproj

Once the following header file is included, the functions of the SampleUtil library can be used.

- %SCE_PSP2_SAMPLE_DIR%\sample_code\common\include\sampleutil.h

Sample Programs

A number of tutorial samples such as those listed below use the SampleUtil library.

sample_code\system\api_sampleutil

This is a sample that covers the basic usage of the SampleUtil library.

sample_code\system\ tutorial_shooting_game_trc_compliant

This is a sample of a shooting game that uses the SampleUtil library. For details, refer to the "TRC Compliant Shooting Game Tutorial" document.

Relationship with Sample Utility

The SampleUtil library is a library formed by implementing the sample utility heretofore implemented in C language in C++ language and adding a number of new functions.

2 Provided Functions

The functions provided by the SampleUtil library are described below along with the main namespaces and classes. For how to use each class, refer to the sample_code\system\api_sampleutil sample. This sample covers the basic usage of the SampleUtil library.

sce::SampleUtil::SampleSkeleton Class

The `initialize()`, `update()`, `render()`, and `finalize()` functions are the base classes of the application classes defined as pure virtual functions. `initialize()`, `update()`, and `finalize()` in the application class inheriting the SampleSkeleton class respectively call the `initializeUtil()`, `updateUtil()`, and `finalizeUtil()` functions of the Skelton class.

When calling `initializeUtil()`, specify which function of the SampleUtil library is to be used with the parameter passed to the first argument *`functionFlags`*. For details on the parameters that can be specified for *`functionFlags`*, refer to the "SampleUtil Library Reference" document.

sce::SampleUtil::Graphics Namespace

This is a namespace that provides functions related to the graphics.

GraphicsContext Class

This is a class that provides a simple drawing management function. It can perform GPU state management in a limited range, such as frame buffer management and depth comparison activation.

Font Class

This is a class that generates font textures by specifying a UCS-2 code. It also provides a cache function for the generated textures.

SpriteRenderer Class

This is a class that provides 2D sprite rendering functions. It supports the following functions.

- Pasting of the specified texture
- Pasting of generated textures of Font class
- Drawing of filled ellipses and rectangles

sce::SampleUtil::Graphics::Collada Namespace

This is a namespace that provides functions to load COLLADA files, access mesh and other data, and draw scenes. It draws COLLADA files, using mainly the following classes.

Note
The detailed procedures for creating assets using Maya of Autodesk, exporting them as a COLLADA file, and create drawings using the Collada namespace are described in the "TRC Compliant Shooting Game Tutorial" document.

Note
COLLADA files use the XML format, and as they are inferior compared to other binary format model data with respect to loading time, etc., their use for applications that require large–scale models to be loaded is not recommended. The use of COLLADA files for purposes such as sample programs and prototyping is recommended.

Collada Class

This is a class that stores the COLLADA file contents. The following types of data are supported.

- Materials (only Phong and Colladafx Shader)
- Polygon meshes (only triangles)
- Joints and skins
- Scenes
- Animations (only object transforms)

ColladaLoader Class

This is a class for loading COLLADA files. The loaded contents are stored in the Collada class.

AnimationPlayer Class

This is a class for managing animations.

InstanceVisualScene Class

This is a class for drawing COLLADA scenes.

Reference

For the COLLADA standard, refer to the following site:

"COLLADA - 3D Asset Exchange Schema"

http://www.khronos.org/collada/

(The above reference destination has been confirmed as of June 12, 2013. Note that pages may have been subsequently moved or its contents modified.)

sce::SampleUtil::Input Namespace

This is a namespace that provides functions related to input devices. It provides controller data acquisition, touch data gesture recognition, and motion data acquisition functions.

ControllerContext Class

This is a class that provides functions to acquire a controller's input data using a controller service.

TouchContext Class

This is a class that provides functions for recognizing gestures such as taps from the input data of a touch panel using the libsystemgesture library.

MotionContext Class

This is a class that provides functions for retrieving the input data of motion sensors using the libmotion library.

PadContext Class

This is a class that provides functions for obtaining the input data of controllers. Use it when developing with compatibility for PlayStation®4. When developing only for PlayStation®Vita, use the ControllerContext class.

sce::SampleUtil::Audio Namespace

This is a namespace that provides functions related to the audio. It provides on-memory playback of voices of VAG, Wav, and ATRAC9™ files, playback through streaming processing, envelope and reverb bus setting, and audio playback from BGM ports.

AudioContext Class

This is a class that provides resource management functions for sound playback using NGS.

Voice Class

This is a class that provides functions that make it easy for applications to perform sound playback using NGS.

ReverbBuss Class

This is a class that provides functions that allow applications to create a reverb bus using NGS.

sce::SampleUtil::System Namespace

This namespace provides functions related to system services. It provides save data functions.

SaveData Class

This class provides save data functions using the application utility library.

sce::SampleUtil::Debug Namespace

This is a namespace that provides functions related to debugging. It provides debug menu management and drawing functions.

Menu Class

This is a class that provides debug menu management functions.

AbstractMenuItem Class

This is a class that provides functions to create the various elements of a debug menu.

Console Class

This is a class that provides debug console functions.