

Allegorithmic - Substance Engine - Readme OpenGL 2.0 PC

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Version

Alpha package

Document version 1.0 (11/17/08)

PC Binaries compiled with: Microsoft VC2005 SP1.

Introduction

This document contains specific informations about the OpenGL 2.0 PC implementation of the Substance Engine.

Software requirements

Microsoft Windows 2000/XP/Vista.

For tutorials build (optional):

- Visual Studio 2005 or above.

Hardware requirements

The CPU fallback for the Substance Engine is not available yet. Therefore, a shader model 2.0a capable graphics card is required to run any texture generation process.

Non-exhaustive list of graphics card known to be compatible with substance:

- GeForce 6500 or above.
- GeForce 7/8/9 series.
- ATI x1XXX, HDXXXX or above.
- Intel integrated graphics GMA 3x00 and X3x00 series.

OpenGL 2.0 States

Expected default values initialized server-side capabilities (*glEnable/glDisable*):

- GL_ALPHA_TEST (FALSE)
- GL_BLEND (FALSE)
- GL_CLIP_PLANEi (FALSE)
- GL_COLOR_LOGIC_OP (FALSE)
- GL_COLOR_TABLE (FALSE)
- GL_CONVOLUTION_1D (FALSE)
- GL_CULL_FACE (FALSE)
- GL_DEPTH_TEST (FALSE)
- GL_INDEX_LOGIC_OP (FALSE)
- GL_LINE_SMOOTH (FALSE)

- GL_LINE_STIPPLE (FALSE)
- GL_MINMAX (FALSE)
- GL_POINT_SPRITE (FALSE)
- GL_POLYGON_OFFSET_XXX (FALSE)
- GL_POLYGON_SMOOTH (FALSE)
- GL_POLYGON_STIPPLE (FALSE)
- GL_SAMPLE_ALPHA_TO_COVERAGE (FALSE)
- GL_SAMPLE_ALPHA_TO_ONE (FALSE)
- GL_SAMPLE_COVERAGE (FALSE)
- GL_VERTEX_PROGRAM_TWO_SIDE (FALSE)

Expected default values initialized client and server-side states:

- glShadeModel (GL_SMOOTH)
- glEnableVertexAttribArray (all disabled)

Modified default values initialized server-side capabilities (*glEnable/glDisable*):

- GL_BLEND
- GL_SCISSOR_TEST

Modified texture parameters (*glTexParameterX*):

- GL_TEXTURE_MIN_FILTER
- GL_TEXTURE_MAG_FILTER
- GL_TEXTURE_WRAP_S
- GL_TEXTURE_WRAP_T
- GL_TEXTURE_BORDER_COLOR
- GL_TEXTURE_BASE_LEVEL
- GL_TEXTURE_MAX_LEVEL

Modified client and server-side states:

- glActiveTexture
- glBindTexture
- glBindBuffer w/ GL_ELEMENT_ARRAY_BUFFER, GL_ARRAY_BUFFER
- glBindFramebuffer w/ GL_FRAMEBUFFER
- glBlendEquation
- glBlendFunc
- glUseProgram
- glViewport
- glColorMask
- glClearColor
- glEnableVertexAttribArray/glDisableVertexAttribArray (all disabled)