Aqua

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Chapter 1

Class Index

1.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

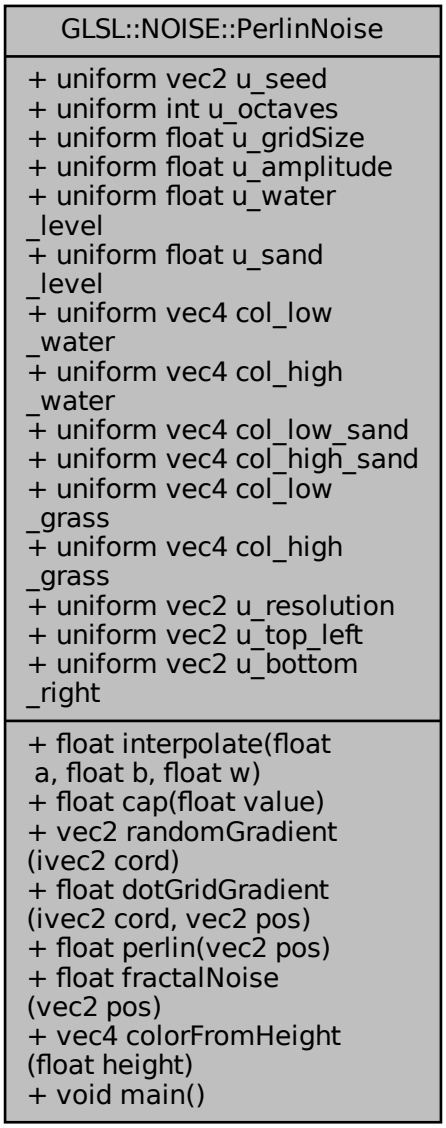
Chapter 2

Class Documentation

2.1 GLSL::NOISE::PerlinNoise Class Reference

Simple 2D perlin noise shader.

Collaboration diagram for GLSL::NOISE::PerlinNoise:



Public Member Functions

- float interpolate (float a, float b, float w)

  Smoothly interpolates between two values.
- float cap (float value)

  Caps a value between [0, 1].
- vec2 randomGradient (ivec2 cord)

  Computes a pseudo random gradient vector for a given integer coordinate.
- float dotGridGradient (ivec2 cord, vec2 pos)

  Computes the dot product of a random gradient vector and a given position.

- float perlin (vec2 pos)

  2D Perlin noise
- float fractalNoise (vec2 pos)

  Computes a fractal sum of perlin noise.
- vec4 colorFromHeight (float height)

  Computes a color based on the height.
- void main ()

  Main function.

Public Attributes

- uniform vec2 u_seed

  Seed used as offset.
- uniform int u_octaves

  Number of patterns to sum.
- uniform float u_gridSize

  Size of the grid.
- uniform float u_amplitude

  Start amlitude of the noise.
- uniform float u_water_level

  Threshold for water [0, 1].
- uniform float u_sand_level

  Threshold for sand [0, 1].
- uniform vec4 col_low_water

  Color for deep water.
- uniform vec4 col_high_water

  Color for shallow water.
- uniform vec4 col_low_sand

  Color for low sand.
- uniform vec4 col_high_sand

  Color for high sand.
- uniform vec4 col_low_grass

  Color for low grass.
- uniform vec4 col_high_grass

  Color for high grass.
- uniform vec2 u_resolution

  Size of the window.
- uniform vec2 u_top_left

  Top left corner of the visible area.
- uniform vec2 u_bottom_right

  Bottom right corner of the visible area.

2.1.1 Detailed Description

Simple 2D perlin noise shader.

Code based on the the Perlin noise wikipedia page: https://en.wikipedia.org/wiki/Perlin_↩noise

Remarks

Fragment-Shader

2.1.2 Member Function Documentation

2.1.2.1 colorFromHeight()

```
vec4 GLSL::NOISE::PerlinNoise::colorFromHeight (
            float height )  [inline]
```

Computes a color based on the height.

Parameters

height	in [0, 1]

2.1.2.2 fractalNoise()

```
float GLSL::NOISE::PerlinNoise::fractalNoise (
            vec2 pos )  [inline]
```

Computes a fractal sum of perlin noise.

Returns

[0, 1]

2.1.2.3 perlin()

```
float GLSL::NOISE::PerlinNoise::perlin (
            vec2 pos )  [inline]
```

2D Perlin noise

Parameters

pos	Position in 2D space

Returns

[-1, 1]

2.1.2.4 randomGradient()

```
vec2 GLSL::NOISE::PerlinNoise::randomGradient (
            ivec2 cord )  [inline]
```

Computes a pseudo random gradient vector for a given integer coordinate.

Returns

Vector with length 1

The documentation for this class was generated from the following file:

- src/perlin.frag

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