Vulkan Engine

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Chapter 1

Namespace Index

1.1 Namespace List

Here is a list of all namespaces with brief descriptions:

gpu 9

Chapter 2

Hierarchical Index

2.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

gpu::GLInfo 11
Mesh 43
gpu::Profiler 45
QVulkanWindow
    VulkanWindow 76
QVulkanWindowRenderer
    Renderer 55
Shader 57
gpu::VkInfo 59

Chapter 3

Class Index

3.1 Class List

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

gpu::GLInfo
: GLInfo struct used to store the GPU and OpenGL data. Structure containing the OpenGL information 11

Mesh
: Class for mesh. Loads the 3D model (mesh). Keeps track of vertex count and saves data in a QByteArray 43

gpu::Profiler
: Class for profiler. Saves the GPU information: vendor, renderer. OpenGL version, shading version, extensions. Vulkan device name, API version, driver version, vendor ID, device ID, extensions. Std::vector stores Profiling data (polycount per time) 45

Renderer
: Class for renderer. Renderer implementation based on the QVulkanWindowRenderer widget . 55

Shader
: Class for shader. Loads a shader for file so that it can be used by the Vulkan Engine 57

gpu::VkInfo
: VkInfo struct used to store the GPU and OpenGL data. Structure containing the Vulkan information 59

VulkanWindow
: Class for vulkan window. Vulkan Window class based on QVulkanWindow widget 76

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File Index

4.1 File List

Here is a list of all files with brief descriptions:

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libs/profiler/src/Profiler.cpp . . . 79
libs/profiler/src/Profiler.h . . . 79
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src/main.cpp . . . 80
src/mesh.cpp . . . 81
src/mesh.h . . . 81
src/renderer.cpp . . . 81
src/renderer.h . . . 81
src/setvkinfo.cpp . . . 81
src/shader.cpp . . . 82
src/shader.h . . . 82
src/vulkanwindow.cpp . . . 82
src/vulkanwindow.h . . . 82

Chapter 5

Namespace Documentation

5.1 gpu Namespace Reference

Classes

- struct GLInfo

  GLInfo struct used to store the GPU and OpenGL data. Structure containing the OpenGL information.
- class Profiler

  Class for profiler. Saves the GPU information: vendor, renderer. OpenGL version, shading version, extensions. Vulkan device name, API version, driver version, vendor ID, device ID, extensions. Std::vector stores Profiling data (polycount per time).
- struct VkInfo

  VkInfo struct used to store the GPU and OpenGL data. Structure containing the Vulkan information.

Enumerations

- enum Count {
  VK_SAMPLE_COUNT_1_BIT = 0x00000001, VK_SAMPLE_COUNT_2_BIT = 0x00000002, VK_SAMPLE↩
  _COUNT_4_BIT = 0x00000004, VK_SAMPLE_COUNT_8_BIT = 0x00000008,
  VK_SAMPLE_COUNT_16_BIT = 0x00000010, VK_SAMPLE_COUNT_32_BIT = 0x00000020, VK_SAMP↩
  LE_COUNT_64_BIT = 0x00000040, VK_SAMPLE_COUNT_FLAG_BITS_MAX_ENUM = 0x7FFFFFFF }

5.1.1 Enumeration Type Documentation

5.1.1.1 Count

`enum gpu::Count`

Sample count.

Enumerator

VK_SAMPLE_COUNT_1_BIT	
VK_SAMPLE_COUNT_2_BIT	
VK_SAMPLE_COUNT_4_BIT	
VK_SAMPLE_COUNT_8_BIT	
VK_SAMPLE_COUNT_16_BIT	
VK_SAMPLE_COUNT_32_BIT	
VK_SAMPLE_COUNT_64_BIT	
VK_SAMPLE_COUNT_FLAG_BITS_MAX_ENUM	

Chapter 6

Class Documentation

6.1 gpu::GLInfo Struct Reference

GLInfo struct used to store the GPU and OpenGL data. Structure containing the OpenGL information.

`#include <GLInfo.hpp>`

Public Attributes

- int gl_active_texture = -1
- int gl_aliased_line_width_range = -1
- int gl_array_buffer_binding = -1
- int gl_blend = -1
- int gl_blend_color = -1
- int gl_blend_dst_alpha = -1
- int gl_blend_dst_rgb = -1
- int gl_blend_equation_rgb = -1
- int gl_blend_equation_alpha = -1
- int gl_blend_src_alpha = -1
- int gl_blend_src_rgb = -1
- int gl_color_clear_value = -1
- int gl_color_logic_op = -1
- int gl_color_writemask = -1
- int gl_compressed_texture_formats = -1
- int gl_max_compute_shader_storage_blocks = -1
- int gl_max_combined_shader_storage_blocks = -1
- int gl_max_compute_uniform_blocks = -1
- int gl_max_compute_texture_image_units = -1
- int gl_max_compute_uniform_components = -1
- int gl_max_compute_atomic_counters = -1
- int gl_max_compute_atomic_counter_buffers = -1
- int gl_max_combined_compute_uniform_components = -1
- int gl_max_compute_work_group_count = -1
- int gl_max_compute_work_group_size = -1
- int gl_dispatch_indirect_buffer_binding = -1
- int gl_max_debug_group_stack_depth = -1
- int gl_debug_group_stack_depth = -1

- int gl_context_flags = -1
- int gl_cull_face = -1
- int gl_cull_face_mode = -1
- int gl_current_program = -1
- int gl_depth_clear_value = -1
- int gl_depth_func = -1
- int gl_depth_range = -1
- int gl_depth_test = -1
- int gl_depth_writemask = -1
- int gl_dither = -1
- int gl_doublebuffer = -1
- int gl_draw_buffer = -1
- int gl_draw_framebuffer_binding = -1
- int gl_read_framebuffer_binding = -1
- int gl_element_array_buffer_binding = -1
- int gl_fragment_shader_derivative_hint = -1
- int gl_implementation_color_read_format = -1
- int gl_implementation_color_read_type = -1
- int gl_line_smooth = -1
- int gl_line_smooth_hint = -1
- int gl_line_width = -1
- int gl_layer_provoking_vertex = -1
- int gl_logic_op_mode = -1
- int gl_major_version = -1
- int gl_max_3d_texture_size = -1
- int gl_max_array_texture_layers = -1
- int gl_max_clip_distances = -1
- int gl_max_color_texture_samples = -1
- int gl_max_combined_atomic_counters = -1
- int gl_max_combined_fragment_uniform_components = -1
- int gl_max_combined_geometry_uniform_components = -1
- int gl_max_combined_texture_image_units = -1
- int gl_max_combined_uniform_blocks = -1
- int gl_max_combined_vertex_uniform_components = -1
- int gl_max_cube_map_texture_size = -1
- int gl_max_depth_texture_samples = -1
- int gl_max_draw_buffers = -1
- int gl_max_dual_source_draw_buffers = -1
- int gl_max_elements_indices = -1
- int gl_max_elements_vertices = -1
- int gl_max_fragment_atomic_counters = -1
- int gl_max_fragment_shader_storage_blocks = -1
- int gl_max_fragment_input_components = -1
- int gl_max_fragment_uniform_components = -1
- int gl_max_fragment_uniform_vectors = -1
- int gl_max_fragment_uniform_blocks = -1
- int gl_max_framebuffer_width = -1
- int gl_max_framebuffer_height = -1
- int gl_max_framebuffer_layers = -1
- int gl_max_framebuffer_samples = -1
- int gl_max_geometry_atomic_counters = -1
- int gl_max_geometry_shader_storage_blocks = -1
- int gl_max_geometry_input_components = -1
- int gl_max_geometry_output_components = -1
- int gl_max_geometry_texture_image_units = -1

- int gl_max_geometry_uniform_blocks = -1
- int gl_max_geometry_uniform_components = -1
- int gl_max_integer_samples = -1
- int gl_min_map_buffer_alignment = -1
- int gl_max_label_length = -1
- int gl_max_program_texel_offset = -1
- int gl_min_program_texel_offset = -1
- int gl_max_rectangle_texture_size = -1
- int gl_max_renderbuffer_size = -1
- int gl_max_sample_mask_words = -1
- int gl_max_server_wait_timeout = -1
- int gl_max_shader_storage_buffer_bindings = -1
- int gl_max_tess_control_atomic_counters = -1
- int gl_max_tess_evaluation_atomic_counters = -1
- int gl_max_tess_control_shader_storage_blocks = -1
- int gl_max_tess_evaluation_shader_storage_blocks = -1
- int gl_max_texture_buffer_size = -1
- int gl_max_texture_image_units = -1
- int gl_max_texture_lod_bias = -1
- int gl_max_texture_size = -1
- int gl_max_uniform_buffer_bindings = -1
- int gl_max_uniform_block_size = -1
- int gl_max_uniform_locations = -1
- int gl_max_varying_components = -1
- int gl_max_varying_vectors = -1
- int gl_max_varying_floats = -1
- int gl_max_vertex_atomic_counters = -1
- int gl_max_vertex_attribs = -1
- int gl_max_vertex_shader_storage_blocks = -1
- int gl_max_vertex_texture_image_units = -1
- int gl_max_vertex_uniform_components = -1
- int gl_max_vertex_uniform_vectors = -1
- int gl_max_vertex_output_components = -1
- int gl_max_vertex_uniform_blocks = -1
- int gl_max_viewport_dims = -1
- int gl_max_viewports = -1
- int gl_minor_version = -1
- int gl_num_compressed_texture_formats = -1
- int gl_num_extensions = -1
- int gl_num_program_binary_formats = -1
- int gl_num_shader_binary_formats = -1
- int gl_pack_alignment = -1
- int gl_pack_image_height = -1
- int gl_pack_lsb_first = -1
- int gl_pack_row_length = -1
- int gl_pack_skip_images = -1
- int gl_pack_skip_pixels = -1
- int gl_pack_skip_rows = -1
- int gl_pack_swap_bytes = -1
- int gl_pixel_pack_buffer_binding = -1
- int gl_pixel_unpack_buffer_binding = -1
- int gl_point_fade_threshold_size = -1
- int gl_primitive_restart_index = -1
- int gl_program_binary_formats = -1
- int gl_program_pipeline_binding = -1

- int gl_program_point_size = -1
- int gl_provoking_vertex = -1
- int gl_point_size = -1
- int gl_point_size_granularity = -1
- int gl_point_size_range = -1
- int gl_polygon_offset_factor = -1
- int gl_polygon_offset_units = -1
- int gl_polygon_offset_fill = -1
- int gl_polygon_offset_line = -1
- int gl_polygon_offset_point = -1
- int gl_polygon_smooth = -1
- int gl_polygon_smooth_hint = -1
- int gl_read_buffer = -1
- int gl_renderbuffer_binding = -1
- int gl_sample_buffers = -1
- int gl_sample_coverage_value = -1
- int gl_sample_coverage_invert = -1
- int gl_sampler_binding = -1
- int gl_samples = -1
- int gl_scissor_box = -1
- int gl_scissor_test = -1
- int gl_shader_compiler = -1
- int gl_shader_storage_buffer_binding = -1
- int gl_shader_storage_buffer_offset_alignment = -1
- int gl_shader_storage_buffer_start = -1
- int gl_shader_storage_buffer_size = -1
- int gl_smooth_line_width_range = -1
- int gl_smooth_line_width_granularity = -1
- int gl_stencil_back_fail = -1
- int gl_stencil_back_func = -1
- int gl_stencil_back_pass_depth_fail = -1
- int gl_stencil_back_pass_depth_pass = -1
- int gl_stencil_back_ref = -1
- int gl_stencil_back_value_mask = -1
- int gl_stencil_back_writemask = -1
- int gl_stencil_clear_value = -1
- int gl_stencil_fail = -1
- int gl_stencil_func = -1
- int gl_stencil_pass_depth_fail = -1
- int gl_stencil_pass_depth_pass = -1
- int gl_stencil_ref = -1
- int gl_stencil_test = -1
- int gl_stencil_value_mask = -1
- int gl_stencil_writemask = -1
- int gl_stereo = -1
- int gl_subpixel_bits = -1
- int gl_texture_binding_1d = -1
- int gl_texture_binding_1d_array = -1
- int gl_texture_binding_2d = -1
- int gl_texture_binding_2d_array = -1
- int gl_texture_binding_2d_multisample = -1
- int gl_texture_binding_2d_multisample_array = -1
- int gl_texture_binding_3d = -1
- int gl_texture_binding_buffer = -1
- int gl_texture_binding_cube_map = -1

- int gl_texture_binding_rectangle = -1
- int gl_texture_compression_hint = -1
- int gl_texture_buffer_offset_alignment = -1
- int gl_timestamp = -1
- int gl_transform_feedback_buffer_binding = -1
- int gl_transform_feedback_buffer_start = -1
- int gl_transform_feedback_buffer_size = -1
- int gl_uniform_buffer_binding = -1
- int gl_uniform_buffer_offset_alignment = -1
- int gl_uniform_buffer_size = -1
- int gl_uniform_buffer_start = -1
- int gl_unpack_alignment = -1
- int gl_unpack_image_height = -1
- int gl_unpack_lsb_first = -1
- int gl_unpack_row_length = -1
- int gl_unpack_skip_images = -1
- int gl_unpack_skip_pixels = -1
- int gl_unpack_skip_rows = -1
- int gl_unpack_swap_bytes = -1
- int gl_vertex_array_binding = -1
- int gl_vertex_binding_divisor = -1
- int gl_vertex_binding_offset = -1
- int gl_vertex_binding_stride = -1
- int gl_max_vertex_attrib_relative_offset = -1
- int gl_max_vertex_attrib_bindings = -1
- int gl_viewport = -1
- int gl_viewport_bounds_range = -1
- int gl_viewport_index_provoking_vertex = -1
- int gl_viewport_subpixel_bits = -1
- int gl_max_element_index = -1

6.1.1 Detailed Description

GLInfo struct used to store the GPU and OpenGL data. Structure containing the OpenGL information.

6.1.2 Member Data Documentation

6.1.2.1 gl_active_texture

```
int gpu::GLInfo::gl_active_texture = -1
```

6.1.2.2 gl_aliased_line_width_range

```
int gpu::GLInfo::gl_aliased_line_width_range = -1
```

6.1.2.3 gl_array_buffer_binding

```
int gpu::GLInfo::gl_array_buffer_binding = -1
```

6.1.2.4 gl_blend

```
int gpu::GLInfo::gl_blend = -1
```

6.1.2.5 gl_blend_color

```
int gpu::GLInfo::gl_blend_color = -1
```

6.1.2.6 gl_blend_dst_alpha

```
int gpu::GLInfo::gl_blend_dst_alpha = -1
```

6.1.2.7 gl_blend_dst_rgb

```
int gpu::GLInfo::gl_blend_dst_rgb = -1
```

6.1.2.8 gl_blend_equation_alpha

```
int gpu::GLInfo::gl_blend_equation_alpha = -1
```

6.1.2.9 gl_blend_equation_rgb

```
int gpu::GLInfo::gl_blend_equation_rgb = -1
```

6.1.2.10 gl_blend_src_alpha

```
int gpu::GLInfo::gl_blend_src_alpha = -1
```

6.1.2.11 gl_blend_src_rgb

```
int gpu::GLInfo::gl_blend_src_rgb = -1
```

6.1.2.12 gl_color_clear_value

```
int gpu::GLInfo::gl_color_clear_value = -1
```

6.1.2.13 gl_color_logic_op

```
int gpu::GLInfo::gl_color_logic_op = -1
```

6.1.2.14 gl_color_writemask

```
int gpu::GLInfo::gl_color_writemask = -1
```

6.1.2.15 gl_compressed_texture_formats

```
int gpu::GLInfo::gl_compressed_texture_formats = -1
```

6.1.2.16 gl_context_flags

```
int gpu::GLInfo::gl_context_flags = -1
```

6.1.2.17 gl_cull_face

```
int gpu::GLInfo::gl_cull_face = -1
```

6.1.2.18 gl_cull_face_mode

```
int gpu::GLInfo::gl_cull_face_mode = -1
```

6.1.2.19 gl_current_program

```
int gpu::GLInfo::gl_current_program = -1
```

6.1.2.20 gl_debug_group_stack_depth

```
int gpu::GLInfo::gl_debug_group_stack_depth = -1
```

6.1.2.21 gl_depth_clear_value

```
int gpu::GLInfo::gl_depth_clear_value = -1
```

6.1.2.22 gl_depth_func

```
int gpu::GLInfo::gl_depth_func = -1
```

6.1.2.23 gl_depth_range

```
int gpu::GLInfo::gl_depth_range = -1
```

6.1.2.24 gl_depth_test

```
int gpu::GLInfo::gl_depth_test = -1
```

6.1.2.25 gl_depth_writemask

```
int gpu::GLInfo::gl_depth_writemask = -1
```

6.1.2.26 gl_dispatch_indirect_buffer_binding

```
int gpu::GLInfo::gl_dispatch_indirect_buffer_binding = -1
```

6.1.2.27 gl_dither

```
int gpu::GLInfo::gl_dither = -1
```

6.1.2.28 gl_doublebuffer

```
int gpu::GLInfo::gl_doublebuffer = -1
```

6.1.2.29 gl_draw_buffer

```
int gpu::GLInfo::gl_draw_buffer = -1
```

6.1.2.30 gl_draw_framebuffer_binding

```
int gpu::GLInfo::gl_draw_framebuffer_binding = -1
```

6.1.2.31 gl_element_array_buffer_binding

```
int gpu::GLInfo::gl_element_array_buffer_binding = -1
```

6.1.2.32 gl_fragment_shader_derivative_hint

```
int gpu::GLInfo::gl_fragment_shader_derivative_hint = -1
```

6.1.2.33 gl_implementation_color_read_format

```
int gpu::GLInfo::gl_implementation_color_read_format = -1
```

6.1.2.34 gl_implementation_color_read_type

```
int gpu::GLInfo::gl_implementation_color_read_type = -1
```

6.1.2.35 gl_layer_provoking_vertex

```
int gpu::GLInfo::gl_layer_provoking_vertex = -1
```

6.1.2.36 gl_line_smooth

```
int gpu::GLInfo::gl_line_smooth = -1
```

6.1.2.37 gl_line_smooth_hint

```
int gpu::GLInfo::gl_line_smooth_hint = -1
```

6.1.2.38 gl_line_width

```
int gpu::GLInfo::gl_line_width = -1
```

6.1.2.39 gl_logic_op_mode

```
int gpu::GLInfo::gl_logic_op_mode = -1
```

6.1.2.40 gl_major_version

```
int gpu::GLInfo::gl_major_version = -1
```

6.1.2.41 gl_max_3d_texture_size

```
int gpu::GLInfo::gl_max_3d_texture_size = -1
```

6.1.2.42 gl_max_array_texture_layers

```
int gpu::GLInfo::gl_max_array_texture_layers = -1
```

6.1.2.43 gl_max_clip_distances

```
int gpu::GLInfo::gl_max_clip_distances = -1
```

6.1.2.44 gl_max_color_texture_samples

```
int gpu::GLInfo::gl_max_color_texture_samples = -1
```

6.1.2.45 gl_max_combined_atomic_counters

```
int gpu::GLInfo::gl_max_combined_atomic_counters = -1
```

6.1.2.46 gl_max_combined_compute_uniform_components

```
int gpu::GLInfo::gl_max_combined_compute_uniform_components = -1
```

6.1.2.47 gl_max_combined_fragment_uniform_components

```
int gpu::GLInfo::gl_max_combined_fragment_uniform_components = -1
```

6.1.2.48 gl_max_combined_geometry_uniform_components

```
int gpu::GLInfo::gl_max_combined_geometry_uniform_components = -1
```

6.1.2.49 gl_max_combined_shader_storage_blocks

```
int gpu::GLInfo::gl_max_combined_shader_storage_blocks = -1
```

6.1.2.50 gl_max_combined_texture_image_units

```
int gpu::GLInfo::gl_max_combined_texture_image_units = -1
```

6.1.2.51 gl_max_combined_uniform_blocks

```
int gpu::GLInfo::gl_max_combined_uniform_blocks = -1
```

6.1.2.52 gl_max_combined_vertex_uniform_components

```
int gpu::GLInfo::gl_max_combined_vertex_uniform_components = -1
```

6.1.2.53 gl_max_compute_atomic_counter_buffers

```
int gpu::GLInfo::gl_max_compute_atomic_counter_buffers = -1
```

6.1.2.54 gl_max_compute_atomic_counters

```
int gpu::GLInfo::gl_max_compute_atomic_counters = -1
```

6.1.2.55 gl_max_compute_shader_storage_blocks

```
int gpu::GLInfo::gl_max_compute_shader_storage_blocks = -1
```

6.1.2.56 gl_max_compute_texture_image_units

```
int gpu::GLInfo::gl_max_compute_texture_image_units = -1
```

6.1.2.57 gl_max_compute_uniform_blocks

```
int gpu::GLInfo::gl_max_compute_uniform_blocks = -1
```

6.1.2.58 gl_max_compute_uniform_components

```
int gpu::GLInfo::gl_max_compute_uniform_components = -1
```

6.1.2.59 gl_max_compute_work_group_count

```
int gpu::GLInfo::gl_max_compute_work_group_count = -1
```

6.1.2.60 gl_max_compute_work_group_size

```
int gpu::GLInfo::gl_max_compute_work_group_size = -1
```

6.1.2.61 gl_max_cube_map_texture_size

```
int gpu::GLInfo::gl_max_cube_map_texture_size = -1
```

6.1.2.62 gl_max_debug_group_stack_depth

```
int gpu::GLInfo::gl_max_debug_group_stack_depth = -1
```

6.1.2.63 gl_max_depth_texture_samples

```
int gpu::GLInfo::gl_max_depth_texture_samples = -1
```

6.1.2.64 gl_max_draw_buffers

```
int gpu::GLInfo::gl_max_draw_buffers = -1
```

6.1.2.65 gl_max_dual_source_draw_buffers

```
int gpu::GLInfo::gl_max_dual_source_draw_buffers = -1
```

6.1.2.66 gl_max_element_index

```
int gpu::GLInfo::gl_max_element_index = -1
```

6.1.2.67 gl_max_elements_indices

```
int gpu::GLInfo::gl_max_elements_indices = -1
```

6.1.2.68 gl_max_elements_vertices

```
int gpu::GLInfo::gl_max_elements_vertices = -1
```

6.1.2.69 gl_max_fragment_atomic_counters

```
int gpu::GLInfo::gl_max_fragment_atomic_counters = -1
```

6.1.2.70 gl_max_fragment_input_components

```
int gpu::GLInfo::gl_max_fragment_input_components = -1
```

6.1.2.71 gl_max_fragment_shader_storage_blocks

```
int gpu::GLInfo::gl_max_fragment_shader_storage_blocks = -1
```

6.1.2.72 gl_max_fragment_uniform_blocks

```
int gpu::GLInfo::gl_max_fragment_uniform_blocks = -1
```

6.1.2.73 gl_max_fragment_uniform_components

```
int gpu::GLInfo::gl_max_fragment_uniform_components = -1
```

6.1.2.74 gl_max_fragment_uniform_vectors

```
int gpu::GLInfo::gl_max_fragment_uniform_vectors = -1
```

6.1.2.75 gl_max_framebuffer_height

```
int gpu::GLInfo::gl_max_framebuffer_height = -1
```

6.1.2.76 gl_max_framebuffer_layers

```
int gpu::GLInfo::gl_max_framebuffer_layers = -1
```

6.1.2.77 gl_max_framebuffer_samples

```
int gpu::GLInfo::gl_max_framebuffer_samples = -1
```

6.1.2.78 gl_max_framebuffer_width

```
int gpu::GLInfo::gl_max_framebuffer_width = -1
```

6.1.2.79 gl_max_geometry_atomic_counters

```
int gpu::GLInfo::gl_max_geometry_atomic_counters = -1
```

6.1.2.80 gl_max_geometry_input_components

```
int gpu::GLInfo::gl_max_geometry_input_components = -1
```

6.1.2.81 gl_max_geometry_output_components

```
int gpu::GLInfo::gl_max_geometry_output_components = -1
```

6.1.2.82 gl_max_geometry_shader_storage_blocks

```
int gpu::GLInfo::gl_max_geometry_shader_storage_blocks = -1
```

6.1.2.83 gl_max_geometry_texture_image_units

```
int gpu::GLInfo::gl_max_geometry_texture_image_units = -1
```

6.1.2.84 gl_max_geometry_uniform_blocks

```
int gpu::GLInfo::gl_max_geometry_uniform_blocks = -1
```

6.1.2.85 gl_max_geometry_uniform_components

```
int gpu::GLInfo::gl_max_geometry_uniform_components = -1
```

6.1.2.86 gl_max_integer_samples

```
int gpu::GLInfo::gl_max_integer_samples = -1
```

6.1.2.87 gl_max_label_length

```
int gpu::GLInfo::gl_max_label_length = -1
```

6.1.2.88 gl_max_program_texel_offset

```
int gpu::GLInfo::gl_max_program_texel_offset = -1
```

6.1.2.89 gl_max_rectangle_texture_size

```
int gpu::GLInfo::gl_max_rectangle_texture_size = -1
```

6.1.2.90 gl_max_renderbuffer_size

```
int gpu::GLInfo::gl_max_renderbuffer_size = -1
```

6.1.2.91 gl_max_sample_mask_words

```
int gpu::GLInfo::gl_max_sample_mask_words = -1
```

6.1.2.92 gl_max_server_wait_timeout

```
int gpu::GLInfo::gl_max_server_wait_timeout = -1
```

6.1.2.93 gl_max_shader_storage_buffer_bindings

```
int gpu::GLInfo::gl_max_shader_storage_buffer_bindings = -1
```

6.1.2.94 gl_max_tess_control_atomic_counters

```
int gpu::GLInfo::gl_max_tess_control_atomic_counters = -1
```

6.1.2.95 gl_max_tess_control_shader_storage_blocks

```
int gpu::GLInfo::gl_max_tess_control_shader_storage_blocks = -1
```

6.1.2.96 gl_max_tess_evaluation_atomic_counters

```
int gpu::GLInfo::gl_max_tess_evaluation_atomic_counters = -1
```

6.1.2.97 gl_max_tess_evaluation_shader_storage_blocks

```
int gpu::GLInfo::gl_max_tess_evaluation_shader_storage_blocks = -1
```

6.1.2.98 gl_max_texture_buffer_size

```
int gpu::GLInfo::gl_max_texture_buffer_size = -1
```

6.1.2.99 gl_max_texture_image_units

```
int gpu::GLInfo::gl_max_texture_image_units = -1
```

6.1.2.100 gl_max_texture_lod_bias

```
int gpu::GLInfo::gl_max_texture_lod_bias = -1
```

6.1.2.101 gl_max_texture_size

```
int gpu::GLInfo::gl_max_texture_size = -1
```

6.1.2.102 gl_max_uniform_block_size

```
int gpu::GLInfo::gl_max_uniform_block_size = -1
```

6.1.2.103 gl_max_uniform_buffer_bindings

```
int gpu::GLInfo::gl_max_uniform_buffer_bindings = -1
```

6.1.2.104 gl_max_uniform_locations

```
int gpu::GLInfo::gl_max_uniform_locations = -1
```

6.1.2.105 gl_max_varying_components

```
int gpu::GLInfo::gl_max_varying_components = -1
```

6.1.2.106 gl_max_varying_floats

```
int gpu::GLInfo::gl_max_varying_floats = -1
```

6.1.2.107 gl_max_varying_vectors

```
int gpu::GLInfo::gl_max_varying_vectors = -1
```

6.1.2.108 gl_max_vertex_atomic_counters

```
int gpu::GLInfo::gl_max_vertex_atomic_counters = -1
```

6.1.2.109 gl_max_vertex_attrib_bindings

```
int gpu::GLInfo::gl_max_vertex_attrib_bindings = -1
```

6.1.2.110 gl_max_vertex_attrib_relative_offset

```
int gpu::GLInfo::gl_max_vertex_attrib_relative_offset = -1
```

6.1.2.111 gl_max_vertex_attribs

```
int gpu::GLInfo::gl_max_vertex_attribs = -1
```

6.1.2.112 gl_max_vertex_output_components

```
int gpu::GLInfo::gl_max_vertex_output_components = -1
```

6.1.2.113 gl_max_vertex_shader_storage_blocks

```
int gpu::GLInfo::gl_max_vertex_shader_storage_blocks = -1
```

6.1.2.114 gl_max_vertex_texture_image_units

```
int gpu::GLInfo::gl_max_vertex_texture_image_units = -1
```

6.1.2.115 gl_max_vertex_uniform_blocks

```
int gpu::GLInfo::gl_max_vertex_uniform_blocks = -1
```

6.1.2.116 gl_max_vertex_uniform_components

```
int gpu::GLInfo::gl_max_vertex_uniform_components = -1
```

6.1.2.117 gl_max_vertex_uniform_vectors

```
int gpu::GLInfo::gl_max_vertex_uniform_vectors = -1
```

6.1.2.118 gl_max_viewport_dims

```
int gpu::GLInfo::gl_max_viewport_dims = -1
```

6.1.2.119 gl_max_viewports

```
int gpu::GLInfo::gl_max_viewports = -1
```

6.1.2.120 gl_min_map_buffer_alignment

```
int gpu::GLInfo::gl_min_map_buffer_alignment = -1
```

6.1.2.121 gl_min_program_texel_offset

```
int gpu::GLInfo::gl_min_program_texel_offset = -1
```

6.1.2.122 gl_minor_version

```
int gpu::GLInfo::gl_minor_version = -1
```

6.1.2.123 gl_num_compressed_texture_formats

```
int gpu::GLInfo::gl_num_compressed_texture_formats = -1
```

6.1.2.124 gl_num_extensions

```
int gpu::GLInfo::gl_num_extensions = -1
```

6.1.2.125 gl_num_program_binary_formats

```
int gpu::GLInfo::gl_num_program_binary_formats = -1
```

6.1.2.126 gl_num_shader_binary_formats

```
int gpu::GLInfo::gl_num_shader_binary_formats = -1
```

6.1.2.127 gl_pack_alignment

```
int gpu::GLInfo::gl_pack_alignment = -1
```

6.1.2.128 gl_pack_image_height

```
int gpu::GLInfo::gl_pack_image_height = -1
```

6.1.2.129 gl_pack_lsb_first

```
int gpu::GLInfo::gl_pack_lsb_first = -1
```

6.1.2.130 gl_pack_row_length

```
int gpu::GLInfo::gl_pack_row_length = -1
```

6.1.2.131 gl_pack_skip_images

```
int gpu::GLInfo::gl_pack_skip_images = -1
```

6.1.2.132 gl_pack_skip_pixels

```
int gpu::GLInfo::gl_pack_skip_pixels = -1
```

6.1.2.133 gl_pack_skip_rows

```
int gpu::GLInfo::gl_pack_skip_rows = -1
```

6.1.2.134 gl_pack_swap_bytes

```
int gpu::GLInfo::gl_pack_swap_bytes = -1
```

6.1.2.135 gl_pixel_pack_buffer_binding

```
int gpu::GLInfo::gl_pixel_pack_buffer_binding = -1
```

6.1.2.136 gl_pixel_unpack_buffer_binding

```
int gpu::GLInfo::gl_pixel_unpack_buffer_binding = -1
```

6.1.2.137 gl_point_fade_threshold_size

```
int gpu::GLInfo::gl_point_fade_threshold_size = -1
```

6.1.2.138 gl_point_size

```
int gpu::GLInfo::gl_point_size = -1
```

6.1.2.139 gl_point_size_granularity

```
int gpu::GLInfo::gl_point_size_granularity = -1
```

6.1.2.140 gl_point_size_range

```
int gpu::GLInfo::gl_point_size_range = -1
```

6.1.2.141 gl_polygon_offset_factor

```
int gpu::GLInfo::gl_polygon_offset_factor = -1
```

6.1.2.142 gl_polygon_offset_fill

```
int gpu::GLInfo::gl_polygon_offset_fill = -1
```

6.1.2.143 gl_polygon_offset_line

```
int gpu::GLInfo::gl_polygon_offset_line = -1
```

6.1.2.144 gl_polygon_offset_point

```
int gpu::GLInfo::gl_polygon_offset_point = -1
```

6.1.2.145 gl_polygon_offset_units

```
int gpu::GLInfo::gl_polygon_offset_units = -1
```

6.1.2.146 gl_polygon_smooth

```
int gpu::GLInfo::gl_polygon_smooth = -1
```

6.1.2.147 gl_polygon_smooth_hint

```
int gpu::GLInfo::gl_polygon_smooth_hint = -1
```

6.1.2.148 gl_primitive_restart_index

```
int gpu::GLInfo::gl_primitive_restart_index = -1
```

6.1.2.149 gl_program_binary_formats

```
int gpu::GLInfo::gl_program_binary_formats = -1
```

6.1.2.150 gl_program_pipeline_binding

```
int gpu::GLInfo::gl_program_pipeline_binding = -1
```

6.1.2.151 gl_program_point_size

```
int gpu::GLInfo::gl_program_point_size = -1
```

6.1.2.152 gl_provoking_vertex

```
int gpu::GLInfo::gl_provoking_vertex = -1
```

6.1.2.153 gl_read_buffer

```
int gpu::GLInfo::gl_read_buffer = -1
```

6.1.2.154 gl_read_framebuffer_binding

```
int gpu::GLInfo::gl_read_framebuffer_binding = -1
```

6.1.2.155 gl_renderbuffer_binding

```
int gpu::GLInfo::gl_renderbuffer_binding = -1
```

6.1.2.156 gl_sample_buffers

```
int gpu::GLInfo::gl_sample_buffers = -1
```

6.1.2.157 gl_sample_coverage_invert

```
int gpu::GLInfo::gl_sample_coverage_invert = -1
```

6.1.2.158 gl_sample_coverage_value

```
int gpu::GLInfo::gl_sample_coverage_value = -1
```

6.1.2.159 gl_sampler_binding

```
int gpu::GLInfo::gl_sampler_binding = -1
```

6.1.2.160 gl_samples

```
int gpu::GLInfo::gl_samples = -1
```

6.1.2.161 gl_scissor_box

```
int gpu::GLInfo::gl_scissor_box = -1
```

6.1.2.162 gl_scissor_test

```
int gpu::GLInfo::gl_scissor_test = -1
```

6.1.2.163 gl_shader_compiler

```
int gpu::GLInfo::gl_shader_compiler = -1
```

6.1.2.164 gl_shader_storage_buffer_binding

```
int gpu::GLInfo::gl_shader_storage_buffer_binding = -1
```

6.1.2.165 gl_shader_storage_buffer_offset_alignment

```
int gpu::GLInfo::gl_shader_storage_buffer_offset_alignment = -1
```

6.1.2.166 gl_shader_storage_buffer_size

```
int gpu::GLInfo::gl_shader_storage_buffer_size = -1
```

6.1.2.167 gl_shader_storage_buffer_start

```
int gpu::GLInfo::gl_shader_storage_buffer_start = -1
```

6.1.2.168 gl_smooth_line_width_granularity

```
int gpu::GLInfo::gl_smooth_line_width_granularity = -1
```

6.1.2.169 gl_smooth_line_width_range

```
int gpu::GLInfo::gl_smooth_line_width_range = -1
```

6.1.2.170 gl_stencil_back_fail

```
int gpu::GLInfo::gl_stencil_back_fail = -1
```

6.1.2.171 gl_stencil_back_func

```
int gpu::GLInfo::gl_stencil_back_func = -1
```

6.1.2.172 gl_stencil_back_pass_depth_fail

```
int gpu::GLInfo::gl_stencil_back_pass_depth_fail = -1
```

6.1.2.173 gl_stencil_back_pass_depth_pass

```
int gpu::GLInfo::gl_stencil_back_pass_depth_pass = -1
```

6.1.2.174 gl_stencil_back_ref

```
int gpu::GLInfo::gl_stencil_back_ref = -1
```

6.1.2.175 gl_stencil_back_value_mask

```
int gpu::GLInfo::gl_stencil_back_value_mask = -1
```

6.1.2.176 gl_stencil_back_writemask

```
int gpu::GLInfo::gl_stencil_back_writemask = -1
```

6.1.2.177 gl_stencil_clear_value

```
int gpu::GLInfo::gl_stencil_clear_value = -1
```

6.1.2.178 gl_stencil_fail

```
int gpu::GLInfo::gl_stencil_fail = -1
```

6.1.2.179 gl_stencil_func

```
int gpu::GLInfo::gl_stencil_func = -1
```

6.1.2.180 gl_stencil_pass_depth_fail

```
int gpu::GLInfo::gl_stencil_pass_depth_fail = -1
```

6.1.2.181 gl_stencil_pass_depth_pass

```
int gpu::GLInfo::gl_stencil_pass_depth_pass = -1
```

6.1.2.182 gl_stencil_ref

```
int gpu::GLInfo::gl_stencil_ref = -1
```

6.1.2.183 gl_stencil_test

```
int gpu::GLInfo::gl_stencil_test = -1
```

6.1.2.184 gl_stencil_value_mask

```
int gpu::GLInfo::gl_stencil_value_mask = -1
```

6.1.2.185 gl_stencil_writemask

```
int gpu::GLInfo::gl_stencil_writemask = -1
```

6.1.2.186 gl_stereo

```
int gpu::GLInfo::gl_stereo = -1
```

6.1.2.187 gl_subpixel_bits

```
int gpu::GLInfo::gl_subpixel_bits = -1
```

6.1.2.188 gl_texture_binding_1d

```
int gpu::GLInfo::gl_texture_binding_1d = -1
```

6.1.2.189 gl_texture_binding_1d_array

```
int gpu::GLInfo::gl_texture_binding_1d_array = -1
```

6.1.2.190 gl_texture_binding_2d

```
int gpu::GLInfo::gl_texture_binding_2d = -1
```

6.1.2.191 gl_texture_binding_2d_array

```
int gpu::GLInfo::gl_texture_binding_2d_array = -1
```

6.1.2.192 gl_texture_binding_2d_multisample

```
int gpu::GLInfo::gl_texture_binding_2d_multisample = -1
```

6.1.2.193 gl_texture_binding_2d_multisample_array

```
int gpu::GLInfo::gl_texture_binding_2d_multisample_array = -1
```

6.1.2.194 gl_texture_binding_3d

```
int gpu::GLInfo::gl_texture_binding_3d = -1
```

6.1.2.195 gl_texture_binding_buffer

```
int gpu::GLInfo::gl_texture_binding_buffer = -1
```

6.1.2.196 gl_texture_binding_cube_map

```
int gpu::GLInfo::gl_texture_binding_cube_map = -1
```

6.1.2.197 gl_texture_binding_rectangle

```
int gpu::GLInfo::gl_texture_binding_rectangle = -1
```

6.1.2.198 gl_texture_buffer_offset_alignment

```
int gpu::GLInfo::gl_texture_buffer_offset_alignment = -1
```

6.1.2.199 gl_texture_compression_hint

```
int gpu::GLInfo::gl_texture_compression_hint = -1
```

6.1.2.200 gl_timestamp

```
int gpu::GLInfo::gl_timestamp = -1
```

6.1.2.201 gl_transform_feedback_buffer_binding

```
int gpu::GLInfo::gl_transform_feedback_buffer_binding = -1
```

6.1.2.202 gl_transform_feedback_buffer_size

```
int gpu::GLInfo::gl_transform_feedback_buffer_size = -1
```

6.1.2.203 gl_transform_feedback_buffer_start

```
int gpu::GLInfo::gl_transform_feedback_buffer_start = -1
```

6.1.2.204 gl_uniform_buffer_binding

```
int gpu::GLInfo::gl_uniform_buffer_binding = -1
```

6.1.2.205 gl_uniform_buffer_offset_alignment

```
int gpu::GLInfo::gl_uniform_buffer_offset_alignment = -1
```

6.1.2.206 gl_uniform_buffer_size

```
int gpu::GLInfo::gl_uniform_buffer_size = -1
```

6.1.2.207 gl_uniform_buffer_start

```
int gpu::GLInfo::gl_uniform_buffer_start = -1
```

6.1.2.208 gl_unpack_alignment

```
int gpu::GLInfo::gl_unpack_alignment = -1
```

6.1.2.209 gl_unpack_image_height

```
int gpu::GLInfo::gl_unpack_image_height = -1
```

6.1.2.210 gl_unpack_lsb_first

```
int gpu::GLInfo::gl_unpack_lsb_first = -1
```

6.1.2.211 gl_unpack_row_length

```
int gpu::GLInfo::gl_unpack_row_length = -1
```

6.1.2.212 gl_unpack_skip_images

```
int gpu::GLInfo::gl_unpack_skip_images = -1
```

6.1.2.213 gl_unpack_skip_pixels

```
int gpu::GLInfo::gl_unpack_skip_pixels = -1
```

6.1.2.214 gl_unpack_skip_rows

```
int gpu::GLInfo::gl_unpack_skip_rows = -1
```

6.1.2.215 gl_unpack_swap_bytes

```
int gpu::GLInfo::gl_unpack_swap_bytes = -1
```

6.1.2.216 gl_vertex_array_binding

```
int gpu::GLInfo::gl_vertex_array_binding = -1
```

6.1.2.217 gl_vertex_binding_divisor

```
int gpu::GLInfo::gl_vertex_binding_divisor = -1
```

6.1.2.218 gl_vertex_binding_offset

```
int gpu::GLInfo::gl_vertex_binding_offset = -1
```

6.1.2.219 gl_vertex_binding_stride

```
int gpu::GLInfo::gl_vertex_binding_stride = -1
```

6.1.2.220 gl_viewport

```
int gpu::GLInfo::gl_viewport = -1
```

6.1.2.221 gl_viewport_bounds_range

```
int gpu::GLInfo::gl_viewport_bounds_range = -1
```

6.1.2.222 gl_viewport_index_provoking_vertex

```
int gpu::GLInfo::gl_viewport_index_provoking_vertex = -1
```

6.1.2.223 gl_viewport_subpixel_bits

```
int gpu::GLInfo::gl_viewport_subpixel_bits = -1
```

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

- libs/profiler/src/GLInfo.hpp

6.2 Mesh Class Reference

Class for mesh. Loads the 3D model (mesh). Keeps track of vertex count and saves data in a QByteArray.

```
#include <mesh.h>
```

Public Member Functions

- Mesh ()

  Constructs the object. Empty constructor.
- bool load (const QString &file)

  Loads mesh. Loads mesh from file and saves data in QByteArray.

Public Attributes

- int vertexCount = 0
- float aabb [6]
- QByteArray geom

6.2.1 Detailed Description

Class for mesh. Loads the 3D model (mesh). Keeps track of vertex count and saves data in a QByteArray.

6.2.2 Constructor & Destructor Documentation

6.2.2.1 Mesh()

```
Mesh::Mesh ( )  [inline]
```

Constructs the object. Empty constructor.

6.2.3 Member Function Documentation

6.2.3.1 load()

```
bool Mesh::load (
            const QString & file )
```

Loads mesh. Loads mesh from file and saves data in QByteArray.

Parameters

in	*file*	The file to load

Returns

True if load is successful, False otherwise.

6.2.4 Member Data Documentation

6.2.4.1 aabb

```
float Mesh::aabb[6]
```

6.2.4.2 geom

```
QByteArray Mesh::geom
```

6.2.4.3 vertexCount

```
int Mesh::vertexCount = 0
```

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

- src/mesh.h
- src/mesh.cpp

6.3 gpu::Profiler Class Reference

Class for profiler. Saves the GPU information: vendor, renderer. OpenGL version, shading version, extensions. Vulkan device name, API version, driver version, vendor ID, device ID, extensions. Std::vector stores Profiling data (polycount per time).

```
#include <Profiler.h>
```

Public Types

- enum TYPE { TRIANGLES }

Public Member Functions

- Profiler ()

  Constructs the object. Empty constructor.
- ~Profiler ()

  Destroys the object.
- bool save (std::string filename)

  Save data to csv. Saves the data gathered into a CSV file.
- void clear ()

  Clear profiler. Deletes the data vector.
- void setVendor (std::string data)

  Sets the GPU vendor.
- void setRenderer (std::string data)

  Sets the renderer.
- void setGLVersion (std::string data)

  Sets the gl version.
- void setGLShadingLanguageVersion (std::string data)

  Sets the gl shading language version.
- void setGLExtensions (std::string data)

  Sets the gl extensions.
- void setVkDeviceName (std::string data)

  Sets the vulkan device name.
- void setVkApiVersion (uint32_t data)

  Sets the vulkan api version.
- void setVkDriverVersion (uint32_t data)

  Sets the vulkan driver version.
- void setVkVendorID (uint32_t data)

  Sets the vulkan vendor id.
- void setVkDeviceID (uint32_t data)

  Sets the vulkan device id.
- void setVkExtensions (std::vector< std::string > extensions)

  Sets the vulkan extensions.
- void addTrianglesEntry (unsigned numberOfTriangles, unsigned time)

  Adds an entry to the profiler. Add en entry given a polycount and the time taken to render the frame.
- std::vector< std::vector< unsigned > > getData ()

  Gets the data recorded.
- std::string getVendor ()

  Gets the GPU vendor.
- std::string getRenderer ()

  Gets the renderer.
- std::string getGLVersion ()

  Gets the gl version.
- std::string getGLShadingLanguageVersion ()

  Gets the gl shading language version.
- std::string getGLExtensions ()

  Gets the gl extensions.
- std::string getVkDeviceName ()

  Gets the vulkan device name.
- uint32_t getVkApiVersion ()

  Gets the vulkan api version.
- uint32_t getVkDriverVersion ()

Gets the vulkan driver version.

- uint32_t getVkVendorID ()

  Gets the vulkan vendor id.

- uint32_t getVkDeviceID ()

  Gets the vulkan device id.

- std::vector< std::string > getVkExtensions ()

  Gets the vulkan extensions.

Public Attributes

- GLInfo glInfo
- VkInfo vkInfo

6.3.1 Detailed Description

Class for profiler. Saves the GPU information: vendor, renderer. OpenGL version, shading version, extensions. Vulkan device name, API version, driver version, vendor ID, device ID, extensions. Std::vector stores Profiling data (polycount per time).

6.3.2 Member Enumeration Documentation

6.3.2.1 TYPE

```
enum gpu::Profiler::TYPE
```

Enumerator

TRIANGLES	

6.3.3 Constructor & Destructor Documentation

6.3.3.1 Profiler()

```
gpu::Profiler::Profiler ( )  [inline]
```

Constructs the object. Empty constructor.

6.3.3.2 ~Profiler()

```
gpu::Profiler::~Profiler ( )  [inline]
```

Destroys the object.

6.3.4 Member Function Documentation

6.3.4.1 addTrianglesEntry()

```
void Profiler::addTrianglesEntry (
            unsigned numberOfTriangles,
            unsigned time )
```

Adds an entry to the profiler. Add en entry given a polycount and the time taken to render the frame.

Parameters

in	*numberOfTriangles*	The number of triangles
in	*time*	The time taken to render a frame

6.3.4.2 clear()

```
void gpu::Profiler::clear ( )  [inline]
```

Clear profiler. Deletes the data vector.

6.3.4.3 getData()

```
std::vector<std::vector<unsigned> > gpu::Profiler::getData ( )  [inline]
```

Gets the data recorded.

Returns

The data recorded until now.

6.3.4.4 getGLExtensions()

```
std::string gpu::Profiler::getGLExtensions ( )  [inline]
```

Gets the gl extensions.

Returns

The data.

6.3.4.5 getGLShadingLanguageVersion()

```
std::string gpu::Profiler::getGLShadingLanguageVersion ( )  [inline]
```

Gets the gl shading language version.

Returns

The data.

6.3.4.6 getGLVersion()

```
std::string gpu::Profiler::getGLVersion ( )  [inline]
```

Gets the gl version.

Returns

The data.

6.3.4.7 getRenderer()

```
std::string gpu::Profiler::getRenderer ( )  [inline]
```

Gets the renderer.

Returns

The data.

6.3.4.8 getVendor()

```
std::string gpu::Profiler::getVendor ( )  [inline]
```

Gets the GPU vendor.

Returns

The data.

6.3.4.9 getVkApiVersion()

```
uint32_t gpu::Profiler::getVkApiVersion ( )  [inline]
```

Gets the vulkan api version.

Returns

The vulkan api version.

6.3.4.10 getVkDeviceID()

```
uint32_t gpu::Profiler::getVkDeviceID ( )  [inline]
```

Gets the vulkan device id.

Returns

The vulkan device id.

6.3.4.11 getVkDeviceName()

```
std::string gpu::Profiler::getVkDeviceName ( )  [inline]
```

Gets the vulkan device name.

Returns

The vulkan device name.

6.3.4.12 getVkDriverVersion()

```
uint32_t gpu::Profiler::getVkDriverVersion ( )  [inline]
```

Gets the vulkan driver version.

Returns

The vulkan driver version.

6.3.4.13 getVkExtensions()

```
std::vector<std::string> gpu::Profiler::getVkExtensions ( )  [inline]
```

Gets the vulkan extensions.

Returns

The vulkan extensions.

6.3.4.14 getVkVendorID()

```
uint32_t gpu::Profiler::getVkVendorID ( )  [inline]
```

Gets the vulkan vendor id.

Returns

The vulkan vendor id.

6.3.4.15 save()

```
bool Profiler::save (
            std::string filename )
```

Save data to csv. Saves the data gathered into a CSV file.

Parameters

in	*filename*	The filename

Returns

True if save is successful, False otherwise.

6.3.4.16 setGLExtensions()

```
void gpu::Profiler::setGLExtensions (
            std::string data )  [inline]
```

Sets the gl extensions.

Parameters

in	*data*	The data

6.3.4.17 setGLShadingLanguageVersion()

```
void gpu::Profiler::setGLShadingLanguageVersion (
            std::string data )  [inline]
```

Sets the gl shading language version.

Parameters

in	*data*	The data

6.3.4.18 setGLVersion()

```
void gpu::Profiler::setGLVersion (
            std::string data )  [inline]
```

Sets the gl version.

Parameters

in	*data*	The data

6.3.4.19 setRenderer()

```
void gpu::Profiler::setRenderer (
```

```
            std::string data )  [inline]
```

Sets the renderer.

Parameters

in	*data*	The data

6.3.4.20 setVendor()

```
void gpu::Profiler::setVendor (
            std::string data )  [inline]
```

Sets the GPU vendor.

Parameters

in	*data*	The data

6.3.4.21 setVkApiVersion()

```
void gpu::Profiler::setVkApiVersion (
            uint32_t data )  [inline]
```

Sets the vulkan api version.

Parameters

in	*data*	The data

6.3.4.22 setVkDeviceID()

```
void gpu::Profiler::setVkDeviceID (
            uint32_t data )  [inline]
```

Sets the vulkan device id.

Parameters

in	*data*	The data

6.3.4.23 setVkDeviceName()

```
void gpu::Profiler::setVkDeviceName (
            std::string data )  [inline]
```

Sets the vulkan device name.

Parameters

in	*data*	The data

6.3.4.24 setVkDriverVersion()

```
void gpu::Profiler::setVkDriverVersion (
            uint32_t data )  [inline]
```

Sets the vulkan driver version.

Parameters

in	*data*	The data

6.3.4.25 setVkExtensions()

```
void gpu::Profiler::setVkExtensions (
            std::vector< std::string > extensions )  [inline]
```

Sets the vulkan extensions.

Parameters

in	*extensions*	The extensions

6.3.4.26 setVkVendorID()

```
void gpu::Profiler::setVkVendorID (
            uint32_t data )  [inline]
```

Sets the vulkan vendor id.

Parameters

in	*data*	The data

6.3.5 Member Data Documentation

6.3.5.1 glInfo

```
GLInfo gpu::Profiler::glInfo
```

6.3.5.2 vkInfo

```
VkInfo gpu::Profiler::vkInfo
```

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

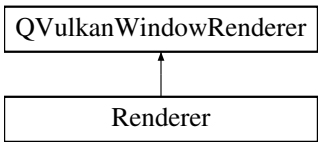
- libs/profiler/src/Profiler.h
- libs/profiler/src/Profiler.cpp

6.4 Renderer Class Reference

Class for renderer. Renderer implementation based on the QVulkanWindowRenderer widget.

```
#include <renderer.h>
```

Inheritance diagram for Renderer:



Public Member Functions

- Renderer (QVulkanWindow *w, gpu::Profiler *profiler=nullptr, int framerate=60)

  Constructs the object. Creates an instance of the Renderer.
- void initResources () override

  Initialises the resources. Initialises the shaders, models, ...
- void initSwapChainResources () override

  Initialises the swap chain resources.
- void releaseSwapChainResources () override

  Releases the swap chain resources (cleans the swap chain).
- void releaseResources () override

  Releases the resources (clean). Releases the shader resources, models data, ...
- void startNextFrame () override

  Starts the next frame. Builds the next frame.

6.4.1 Detailed Description

Class for renderer. Renderer implementation based on the QVulkanWindowRenderer widget.

6.4.2 Constructor & Destructor Documentation

6.4.2.1 Renderer()

```
Renderer::Renderer (
            QVulkanWindow * w,
            gpu::Profiler * profiler = nullptr,
            int framerate = 60 )
```

Constructs the object. Creates an instance of the Renderer.

Parameters

w	Vulkan Window (QVulkanWindow)
profiler	The profiler used to record the GPU information
framerate	The target framerate (60 by default)

6.4.3 Member Function Documentation

6.4.3.1 initResources()

```
void Renderer::initResources ( )  [override]
```

Initialises the resources. Initialises the shaders, models, ...

6.4.3.2 initSwapChainResources()

```
void Renderer::initSwapChainResources ( )  [override]
```

Initialises the swap chain resources.

6.4.3.3 releaseResources()

```
void Renderer::releaseResources ( )  [override]
```

Releases the resources (clean). Releases the shader resources, models data, ...

6.4.3.4 releaseSwapChainResources()

```
void Renderer::releaseSwapChainResources ( )  [override]
```

Releases the swap chain resources (cleans the swap chain).

6.4.3.5 startNextFrame()

```
void Renderer::startNextFrame ( )  [override]
```

Starts the next frame. Builds the next frame.

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

- src/renderer.h
- src/renderer.cpp
- src/setvkinfo.cpp

6.5 Shader Class Reference

Class for shader. Loads a shader for file so that it can be used by the Vulkan Engine.

```
#include <shader.h>
```

Public Member Functions

- Shader ()

  Constructs the object. Empty constructor.
- bool load (QVulkanInstance *instance, VkDevice device, const QString &shaderPath)

  Loads a shader given a path. Loads the shader from file and create the shader module using the QVulkanInstance and the VkDevice.
- bool isValid ()

  Determines if valid. Checks if the shader has been loaded successfully.

Public Attributes

- VkShaderModule shaderModule = nullptr

6.5.1 Detailed Description

Class for shader. Loads a shader for file so that it can be used by the Vulkan Engine.

6.5.2 Constructor & Destructor Documentation

6.5.2.1 Shader()

```
Shader::Shader ( )  [inline]
```

Constructs the object. Empty constructor.

6.5.3 Member Function Documentation

6.5.3.1 isValid()

```
bool Shader::isValid ( )  [inline]
```

Determines if valid. Checks if the shader has been loaded successfully.

Returns

True if valid, False otherwise.

6.5.3.2 load()

```
bool Shader::load (
            QVulkanInstance * instance,
            VkDevice device,
            const QString & shaderPath )
```

Loads a shader given a path. Loads the shader from file and create the shader module using the QVulkanInstance and the VkDevice.

Parameters

	instance	The vulkan instance
in	*device*	The logical device that interfaces with the physical GPU
in	*shaderPath*	The shader path

Returns

True if load is successful, False otherwise.

6.5.4 Member Data Documentation

6.5.4.1 shaderModule

```
VkShaderModule Shader::shaderModule = nullptr
```

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

- src/shader.h
- src/shader.cpp

6.6 gpu::VkInfo Struct Reference

VkInfo struct used to store the GPU and OpenGL data. Structure containing the Vulkan information.

```
#include <VkInfo.hpp>
```

Public Attributes

- uint32_t maxImageDimension1D = -1
- uint32_t maxImageDimension2D = -1
- uint32_t maxImageDimension3D = -1
- uint32_t maxImageDimensionCube = -1
- uint32_t maxImageArrayLayers = -1
- uint32_t maxTexelBufferElements = -1
- uint32_t maxUniformBufferRange = -1
- uint32_t maxStorageBufferRange = -1
- uint32_t maxPushConstantsSize = -1
- uint32_t maxMemoryAllocationCount = -1
- uint32_t maxSamplerAllocationCount = -1
- uint64_t bufferImageGranularity = -1
- uint64_t sparseAddressSpaceSize = -1
- uint32_t maxBoundDescriptorSets = -1
- uint32_t maxPerStageDescriptorSamplers = -1
- uint32_t maxPerStageDescriptorUniformBuffers = -1
- uint32_t maxPerStageDescriptorStorageBuffers = -1
- uint32_t maxPerStageDescriptorSampledImages = -1
- uint32_t maxPerStageDescriptorStorageImages = -1
- uint32_t maxPerStageDescriptorInputAttachments = -1
- uint32_t maxPerStageResources = -1
- uint32_t maxDescriptorSetSamplers = -1
- uint32_t maxDescriptorSetUniformBuffers = -1
- uint32_t maxDescriptorSetUniformBuffersDynamic = -1

- uint32_t maxDescriptorSetStorageBuffers = -1
- uint32_t maxDescriptorSetStorageBuffersDynamic = -1
- uint32_t maxDescriptorSetSampledImages = -1
- uint32_t maxDescriptorSetStorageImages = -1
- uint32_t maxDescriptorSetInputAttachments = -1
- uint32_t maxVertexInputAttributes = -1
- uint32_t maxVertexInputBindings = -1
- uint32_t maxVertexInputAttributeOffset = -1
- uint32_t maxVertexInputBindingStride = -1
- uint32_t maxVertexOutputComponents = -1
- uint32_t maxTessellationGenerationLevel = -1
- uint32_t maxTessellationPatchSize = -1
- uint32_t maxTessellationControlPerVertexInputComponents = -1
- uint32_t maxTessellationControlPerVertexOutputComponents = -1
- uint32_t maxTessellationControlPerPatchOutputComponents = -1
- uint32_t maxTessellationControlTotalOutputComponents = -1
- uint32_t maxTessellationEvaluationInputComponents = -1
- uint32_t maxTessellationEvaluationOutputComponents = -1
- uint32_t maxGeometryShaderInvocations = -1
- uint32_t maxGeometryInputComponents = -1
- uint32_t maxGeometryOutputComponents = -1
- uint32_t maxGeometryOutputVertices = -1
- uint32_t maxGeometryTotalOutputComponents = -1
- uint32_t maxFragmentInputComponents = -1
- uint32_t maxFragmentOutputAttachments = -1
- uint32_t maxFragmentDualSrcAttachments = -1
- uint32_t maxFragmentCombinedOutputResources = -1
- uint32_t maxComputeSharedMemorySize = -1
- uint32_t maxComputeWorkGroupCountX = -1
- uint32_t maxComputeWorkGroupCountY = -1
- uint32_t maxComputeWorkGroupCountZ = -1
- uint32_t maxComputeWorkGroupInvocations = -1
- uint32_t maxComputeWorkGroupSizeX = -1
- uint32_t maxComputeWorkGroupSizeY = -1
- uint32_t maxComputeWorkGroupSizeZ = -1
- uint32_t subPixelPrecisionBits = -1
- uint32_t subTexelPrecisionBits = -1
- uint32_t mipmapPrecisionBits = -1
- uint32_t maxDrawIndexedIndexValue = -1
- uint32_t maxDrawIndirectCount = -1
- float maxSamplerLodBias = -1
- float maxSamplerAnisotropy = -1
- uint32_t maxViewports = -1
- uint32_t maxViewportDimensionsX = -1
- uint32_t maxViewportDimensionsY = -1
- float viewportBoundsRangeX = -1
- float viewportBoundsRangeY = -1
- uint32_t viewportSubPixelBits = -1
- size_t minMemoryMapAlignment = -1
- uint64_t minTexelBufferOffsetAlignment = -1
- uint64_t minUniformBufferOffsetAlignment = -1
- uint64_t minStorageBufferOffsetAlignment = -1
- int32_t minTexelOffset = -1
- uint32_t maxTexelOffset = -1
- int32_t minTexelGatherOffset = -1

- uint32_t maxTexelGatherOffset = -1
- float minInterpolationOffset = -1
- float maxInterpolationOffset = -1
- uint32_t subPixelInterpolationOffsetBits = -1
- uint32_t maxFramebufferWidth = -1
- uint32_t maxFramebufferHeight = -1
- uint32_t maxFramebufferLayers = -1
- Count framebufferColorSampleCounts = VK_SAMPLE_COUNT_FLAG_BITS_MAX_ENUM
- Count framebufferDepthSampleCounts = VK_SAMPLE_COUNT_FLAG_BITS_MAX_ENUM
- Count framebufferStencilSampleCounts = VK_SAMPLE_COUNT_FLAG_BITS_MAX_ENUM
- Count framebufferNoAttachmentsSampleCounts = VK_SAMPLE_COUNT_FLAG_BITS_MAX_ENUM
- uint32_t maxColorAttachments = -1
- Count sampledImageColorSampleCounts = VK_SAMPLE_COUNT_FLAG_BITS_MAX_ENUM
- Count sampledImageIntegerSampleCounts = VK_SAMPLE_COUNT_FLAG_BITS_MAX_ENUM
- Count sampledImageDepthSampleCounts = VK_SAMPLE_COUNT_FLAG_BITS_MAX_ENUM
- Count sampledImageStencilSampleCounts = VK_SAMPLE_COUNT_FLAG_BITS_MAX_ENUM
- Count storageImageSampleCounts = VK_SAMPLE_COUNT_FLAG_BITS_MAX_ENUM
- uint32_t maxSampleMaskWords = -1
- bool timestampComputeAndGraphics = -1
- float timestampPeriod = -1
- uint32_t maxClipDistances = -1
- uint32_t maxCullDistances = -1
- uint32_t maxCombinedClipAndCullDistances = -1
- uint32_t discreteQueuePriorities = -1
- float pointSizeRangeX = -1
- float pointSizeRangeY = -1
- float lineWidthRangeX = -1
- float lineWidthRangeY = -1
- float pointSizeGranularity = -1
- float lineWidthGranularity = -1
- bool strictLines = -1
- bool standardSampleLocations = -1
- uint64_t optimalBufferCopyOffsetAlignment = -1
- uint64_t optimalBufferCopyRowPitchAlignment = -1
- uint64_t nonCoherentAtomSize = -1

6.6.1 Detailed Description

VkInfo struct used to store the GPU and OpenGL data. Structure containing the Vulkan information.

6.6.2 Member Data Documentation

6.6.2.1 bufferImageGranularity

```
uint64_t gpu::VkInfo::bufferImageGranularity = -1
```

6.6.2.2 discreteQueuePriorities

```
uint32_t gpu::VkInfo::discreteQueuePriorities = -1
```

6.6.2.3 framebufferColorSampleCounts

```
Count gpu::VkInfo::framebufferColorSampleCounts = VK_SAMPLE_COUNT_FLAG_BITS_MAX_ENUM
```

6.6.2.4 framebufferDepthSampleCounts

```
Count gpu::VkInfo::framebufferDepthSampleCounts = VK_SAMPLE_COUNT_FLAG_BITS_MAX_ENUM
```

6.6.2.5 framebufferNoAttachmentsSampleCounts

```
Count gpu::VkInfo::framebufferNoAttachmentsSampleCounts = VK_SAMPLE_COUNT_FLAG_BITS_MAX_ENUM
```

6.6.2.6 framebufferStencilSampleCounts

```
Count gpu::VkInfo::framebufferStencilSampleCounts = VK_SAMPLE_COUNT_FLAG_BITS_MAX_ENUM
```

6.6.2.7 lineWidthGranularity

```
float gpu::VkInfo::lineWidthGranularity = -1
```

6.6.2.8 lineWidthRangeX

```
float gpu::VkInfo::lineWidthRangeX = -1
```

6.6.2.9 lineWidthRangeY

```
float gpu::VkInfo::lineWidthRangeY = -1
```

6.6.2.10 maxBoundDescriptorSets

```
uint32_t gpu::VkInfo::maxBoundDescriptorSets = -1
```

6.6.2.11 maxClipDistances

```
uint32_t gpu::VkInfo::maxClipDistances = -1
```

6.6.2.12 maxColorAttachments

```
uint32_t gpu::VkInfo::maxColorAttachments = -1
```

6.6.2.13 maxCombinedClipAndCullDistances

```
uint32_t gpu::VkInfo::maxCombinedClipAndCullDistances = -1
```

6.6.2.14 maxComputeSharedMemorySize

```
uint32_t gpu::VkInfo::maxComputeSharedMemorySize = -1
```

6.6.2.15 maxComputeWorkGroupCountX

```
uint32_t gpu::VkInfo::maxComputeWorkGroupCountX = -1
```

6.6.2.16 maxComputeWorkGroupCountY

```
uint32_t gpu::VkInfo::maxComputeWorkGroupCountY = -1
```

6.6.2.17 maxComputeWorkGroupCountZ

```
uint32_t gpu::VkInfo::maxComputeWorkGroupCountZ = -1
```

6.6.2.18 maxComputeWorkGroupInvocations

```
uint32_t gpu::VkInfo::maxComputeWorkGroupInvocations = -1
```

6.6.2.19 maxComputeWorkGroupSizeX

```
uint32_t gpu::VkInfo::maxComputeWorkGroupSizeX = -1
```

6.6.2.20 maxComputeWorkGroupSizeY

```
uint32_t gpu::VkInfo::maxComputeWorkGroupSizeY = -1
```

6.6.2.21 maxComputeWorkGroupSizeZ

```
uint32_t gpu::VkInfo::maxComputeWorkGroupSizeZ = -1
```

6.6.2.22 maxCullDistances

```
uint32_t gpu::VkInfo::maxCullDistances = -1
```

6.6.2.23 maxDescriptorSetInputAttachments

```
uint32_t gpu::VkInfo::maxDescriptorSetInputAttachments = -1
```

6.6.2.24 maxDescriptorSetSampledImages

```
uint32_t gpu::VkInfo::maxDescriptorSetSampledImages = -1
```

6.6.2.25 maxDescriptorSetSamplers

```
uint32_t gpu::VkInfo::maxDescriptorSetSamplers = -1
```

6.6.2.26 maxDescriptorSetStorageBuffers

```
uint32_t gpu::VkInfo::maxDescriptorSetStorageBuffers = -1
```

6.6.2.27 maxDescriptorSetStorageBuffersDynamic

```
uint32_t gpu::VkInfo::maxDescriptorSetStorageBuffersDynamic = -1
```

6.6.2.28 maxDescriptorSetStorageImages

```
uint32_t gpu::VkInfo::maxDescriptorSetStorageImages = -1
```

6.6.2.29 maxDescriptorSetUniformBuffers

```
uint32_t gpu::VkInfo::maxDescriptorSetUniformBuffers = -1
```

6.6.2.30 maxDescriptorSetUniformBuffersDynamic

```
uint32_t gpu::VkInfo::maxDescriptorSetUniformBuffersDynamic = -1
```

6.6.2.31 maxDrawIndexedIndexValue

```
uint32_t gpu::VkInfo::maxDrawIndexedIndexValue = -1
```

6.6.2.32 maxDrawIndirectCount

```
uint32_t gpu::VkInfo::maxDrawIndirectCount = -1
```

6.6.2.33 maxFragmentCombinedOutputResources

```
uint32_t gpu::VkInfo::maxFragmentCombinedOutputResources = -1
```

6.6.2.34 maxFragmentDualSrcAttachments

```
uint32_t gpu::VkInfo::maxFragmentDualSrcAttachments = -1
```

6.6.2.35 maxFragmentInputComponents

```
uint32_t gpu::VkInfo::maxFragmentInputComponents = -1
```

6.6.2.36 maxFragmentOutputAttachments

```
uint32_t gpu::VkInfo::maxFragmentOutputAttachments = -1
```

6.6.2.37 maxFramebufferHeight

```
uint32_t gpu::VkInfo::maxFramebufferHeight = -1
```

6.6.2.38 maxFramebufferLayers

```
uint32_t gpu::VkInfo::maxFramebufferLayers = -1
```

6.6.2.39 maxFramebufferWidth

```
uint32_t gpu::VkInfo::maxFramebufferWidth = -1
```

6.6.2.40 maxGeometryInputComponents

```
uint32_t gpu::VkInfo::maxGeometryInputComponents = -1
```

6.6.2.41 maxGeometryOutputComponents

```
uint32_t gpu::VkInfo::maxGeometryOutputComponents = -1
```

6.6.2.42 maxGeometryOutputVertices

```
uint32_t gpu::VkInfo::maxGeometryOutputVertices = -1
```

6.6.2.43 maxGeometryShaderInvocations

```
uint32_t gpu::VkInfo::maxGeometryShaderInvocations = -1
```

6.6.2.44 maxGeometryTotalOutputComponents

```
uint32_t gpu::VkInfo::maxGeometryTotalOutputComponents = -1
```

6.6.2.45 maxImageArrayLayers

```
uint32_t gpu::VkInfo::maxImageArrayLayers = -1
```

6.6.2.46 maxImageDimension1D

```
uint32_t gpu::VkInfo::maxImageDimension1D = -1
```

6.6.2.47 maxImageDimension2D

```
uint32_t gpu::VkInfo::maxImageDimension2D = -1
```

6.6.2.48 maxImageDimension3D

```
uint32_t gpu::VkInfo::maxImageDimension3D = -1
```

6.6.2.49 maxImageDimensionCube

```
uint32_t gpu::VkInfo::maxImageDimensionCube = -1
```

6.6.2.50 maxInterpolationOffset

```
float gpu::VkInfo::maxInterpolationOffset = -1
```

6.6.2.51 maxMemoryAllocationCount

```
uint32_t gpu::VkInfo::maxMemoryAllocationCount = -1
```

6.6.2.52 maxPerStageDescriptorInputAttachments

```
uint32_t gpu::VkInfo::maxPerStageDescriptorInputAttachments = -1
```

6.6.2.53 maxPerStageDescriptorSampledImages

```
uint32_t gpu::VkInfo::maxPerStageDescriptorSampledImages = -1
```

6.6.2.54 maxPerStageDescriptorSamplers

```
uint32_t gpu::VkInfo::maxPerStageDescriptorSamplers = -1
```

6.6.2.55 maxPerStageDescriptorStorageBuffers

```
uint32_t gpu::VkInfo::maxPerStageDescriptorStorageBuffers = -1
```

6.6.2.56 maxPerStageDescriptorStorageImages

```
uint32_t gpu::VkInfo::maxPerStageDescriptorStorageImages = -1
```

6.6.2.57 maxPerStageDescriptorUniformBuffers

```
uint32_t gpu::VkInfo::maxPerStageDescriptorUniformBuffers = -1
```

6.6.2.58 maxPerStageResources

```
uint32_t gpu::VkInfo::maxPerStageResources = -1
```

6.6.2.59 maxPushConstantsSize

```
uint32_t gpu::VkInfo::maxPushConstantsSize = -1
```

6.6.2.60 maxSampleMaskWords

```
uint32_t gpu::VkInfo::maxSampleMaskWords = -1
```

6.6.2.61 maxSamplerAllocationCount

```
uint32_t gpu::VkInfo::maxSamplerAllocationCount = -1
```

6.6.2.62 maxSamplerAnisotropy

```
float gpu::VkInfo::maxSamplerAnisotropy = -1
```

6.6.2.63 maxSamplerLodBias

```
float gpu::VkInfo::maxSamplerLodBias = -1
```

6.6.2.64 maxStorageBufferRange

```
uint32_t gpu::VkInfo::maxStorageBufferRange = -1
```

6.6.2.65 maxTessellationControlPerPatchOutputComponents

```
uint32_t gpu::VkInfo::maxTessellationControlPerPatchOutputComponents = -1
```

6.6.2.66 maxTessellationControlPerVertexInputComponents

```
uint32_t gpu::VkInfo::maxTessellationControlPerVertexInputComponents = -1
```

6.6.2.67 maxTessellationControlPerVertexOutputComponents

```
uint32_t gpu::VkInfo::maxTessellationControlPerVertexOutputComponents = -1
```

6.6.2.68 maxTessellationControlTotalOutputComponents

```
uint32_t gpu::VkInfo::maxTessellationControlTotalOutputComponents = -1
```

6.6.2.69 maxTessellationEvaluationInputComponents

```
uint32_t gpu::VkInfo::maxTessellationEvaluationInputComponents = -1
```

6.6.2.70 maxTessellationEvaluationOutputComponents

```
uint32_t gpu::VkInfo::maxTessellationEvaluationOutputComponents = -1
```

6.6.2.71 maxTessellationGenerationLevel

```
uint32_t gpu::VkInfo::maxTessellationGenerationLevel = -1
```

6.6.2.72 maxTessellationPatchSize

```
uint32_t gpu::VkInfo::maxTessellationPatchSize = -1
```

6.6.2.73 maxTexelBufferElements

```
uint32_t gpu::VkInfo::maxTexelBufferElements = -1
```

6.6.2.74 maxTexelGatherOffset

```
uint32_t gpu::VkInfo::maxTexelGatherOffset = -1
```

6.6.2.75 maxTexelOffset

```
uint32_t gpu::VkInfo::maxTexelOffset = -1
```

6.6.2.76 maxUniformBufferRange

```
uint32_t gpu::VkInfo::maxUniformBufferRange = -1
```

6.6.2.77 maxVertexInputAttributeOffset

```
uint32_t gpu::VkInfo::maxVertexInputAttributeOffset = -1
```

6.6.2.78 maxVertexInputAttributes

```
uint32_t gpu::VkInfo::maxVertexInputAttributes = -1
```

6.6.2.79 maxVertexInputBindings

```
uint32_t gpu::VkInfo::maxVertexInputBindings = -1
```

6.6.2.80 maxVertexInputBindingStride

```
uint32_t gpu::VkInfo::maxVertexInputBindingStride = -1
```

6.6.2.81 maxVertexOutputComponents

```
uint32_t gpu::VkInfo::maxVertexOutputComponents = -1
```

6.6.2.82 maxViewportDimensionsX

```
uint32_t gpu::VkInfo::maxViewportDimensionsX = -1
```

6.6.2.83 maxViewportDimensionsY

```
uint32_t gpu::VkInfo::maxViewportDimensionsY = -1
```

6.6.2.84 maxViewports

```
uint32_t gpu::VkInfo::maxViewports = -1
```

6.6.2.85 minInterpolationOffset

```
float gpu::VkInfo::minInterpolationOffset = -1
```

6.6.2.86 minMemoryMapAlignment

```
size_t gpu::VkInfo::minMemoryMapAlignment = -1
```

6.6.2.87 minStorageBufferOffsetAlignment

```
uint64_t gpu::VkInfo::minStorageBufferOffsetAlignment = -1
```

6.6.2.88 minTexelBufferOffsetAlignment

```
uint64_t gpu::VkInfo::minTexelBufferOffsetAlignment = -1
```

6.6.2.89 minTexelGatherOffset

```
int32_t gpu::VkInfo::minTexelGatherOffset = -1
```

6.6.2.90 minTexelOffset

```
int32_t gpu::VkInfo::minTexelOffset = -1
```

6.6.2.91 minUniformBufferOffsetAlignment

```
uint64_t gpu::VkInfo::minUniformBufferOffsetAlignment = -1
```

6.6.2.92 mipmapPrecisionBits

```
uint32_t gpu::VkInfo::mipmapPrecisionBits = -1
```

6.6.2.93 nonCoherentAtomSize

```
uint64_t gpu::VkInfo::nonCoherentAtomSize = -1
```

6.6.2.94 optimalBufferCopyOffsetAlignment

```
uint64_t gpu::VkInfo::optimalBufferCopyOffsetAlignment = -1
```

6.6.2.95 optimalBufferCopyRowPitchAlignment

```
uint64_t gpu::VkInfo::optimalBufferCopyRowPitchAlignment = -1
```

6.6.2.96 pointSizeGranularity

```
float gpu::VkInfo::pointSizeGranularity = -1
```

6.6.2.97 pointSizeRangeX

```
float gpu::VkInfo::pointSizeRangeX = -1
```

6.6.2.98 pointSizeRangeY

```
float gpu::VkInfo::pointSizeRangeY = -1
```

6.6.2.99 sampledImageColorSampleCounts

```
Count gpu::VkInfo::sampledImageColorSampleCounts = VK_SAMPLE_COUNT_FLAG_BITS_MAX_ENUM
```

6.6.2.100 sampledImageDepthSampleCounts

```
Count gpu::VkInfo::sampledImageDepthSampleCounts = VK_SAMPLE_COUNT_FLAG_BITS_MAX_ENUM
```

6.6.2.101 sampledImageIntegerSampleCounts

```
Count gpu::VkInfo::sampledImageIntegerSampleCounts = VK_SAMPLE_COUNT_FLAG_BITS_MAX_ENUM
```

6.6.2.102 sampledImageStencilSampleCounts

```
Count gpu::VkInfo::sampledImageStencilSampleCounts = VK_SAMPLE_COUNT_FLAG_BITS_MAX_ENUM
```

6.6.2.103 sparseAddressSpaceSize

```
uint64_t gpu::VkInfo::sparseAddressSpaceSize = -1
```

6.6.2.104 standardSampleLocations

```
bool gpu::VkInfo::standardSampleLocations = -1
```

6.6.2.105 storageImageSampleCounts

```
Count gpu::VkInfo::storageImageSampleCounts = VK_SAMPLE_COUNT_FLAG_BITS_MAX_ENUM
```

6.6.2.106 strictLines

```
bool gpu::VkInfo::strictLines = -1
```

6.6.2.107 subPixelInterpolationOffsetBits

```
uint32_t gpu::VkInfo::subPixelInterpolationOffsetBits = -1
```

6.6.2.108 subPixelPrecisionBits

```
uint32_t gpu::VkInfo::subPixelPrecisionBits = -1
```

6.6.2.109 subTexelPrecisionBits

```
uint32_t gpu::VkInfo::subTexelPrecisionBits = -1
```

6.6.2.110 timestampComputeAndGraphics

```
bool gpu::VkInfo::timestampComputeAndGraphics = -1
```

6.6.2.111 timestampPeriod

```
float gpu::VkInfo::timestampPeriod = -1
```

6.6.2.112 viewportBoundsRangeX

```
float gpu::VkInfo::viewportBoundsRangeX = -1
```

6.6.2.113 viewportBoundsRangeY

```
float gpu::VkInfo::viewportBoundsRangeY = -1
```

6.6.2.114 viewportSubPixelBits

```
uint32_t gpu::VkInfo::viewportSubPixelBits = -1
```

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

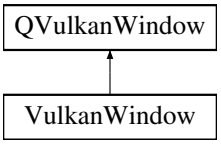
- libs/profiler/src/VkInfo.hpp

6.7 VulkanWindow Class Reference

Class for vulkan window. Vulkan Window class based on QVulkanWindow widget.

```
#include <vulkanwindow.h>
```

Inheritance diagram for VulkanWindow:



Public Member Functions

- VulkanWindow (gpu::Profiler *profiler=nullptr, int framerate=60)

  Constructs the object. The profiler is passed a a pointer so that the data can be retrieved by the GUI tool.
- QVulkanWindowRenderer * createRenderer () override

  Creates the renderer. QVulkanWindowRenderer contains all the buffers, data, resources, ... used to render the scene.

6.7.1 Detailed Description

Class for vulkan window. Vulkan Window class based on QVulkanWindow widget.

6.7.2 Constructor & Destructor Documentation

6.7.2.1 VulkanWindow()

```
VulkanWindow::VulkanWindow (
            gpu::Profiler * profiler = nullptr,
            int framerate = 60 )
```

Constructs the object. The profiler is passed a a pointer so that the data can be retrieved by the GUI tool.

Parameters

profiler	The profiler used to save the GPU information
framerate	The target framerate

6.7.3 Member Function Documentation

6.7.3.1 createRenderer()

```
QVulkanWindowRenderer * VulkanWindow::createRenderer ( )  [override]
```

Creates the renderer. QVulkanWindowRenderer contains all the buffers, data, resources, ... used to render the scene.

Returns

Vulkan renderer.

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

- src/vulkanwindow.h
- src/vulkanwindow.cpp

Chapter 7

File Documentation

7.1 libs/profiler/src/GLInfo.hpp File Reference

Classes

- struct gpu::GLInfo

  GLInfo struct used to store the GPU and OpenGL data. Structure containing the OpenGL information.

Namespaces

- gpu

7.2 libs/profiler/src/Profiler.cpp File Reference

```
#include "Profiler.h"
```

7.3 libs/profiler/src/Profiler.h File Reference

```
#include <vector>
#include <string>
#include <fstream>
#include "GLInfo.hpp"
#include "VkInfo.hpp"
```

Classes

- class gpu::Profiler

  Class for profiler. Saves the GPU information: vendor, renderer. OpenGL version, shading version, extensions. Vulkan device name, API version, driver version, vendor ID, device ID, extensions. Std::vector stores Profiling data (polycount per time).

Namespaces

- gpu

7.4 libs/profiler/src/VkInfo.hpp File Reference

Classes

- struct gpu::VkInfo

  VkInfo struct used to store the GPU and OpenGL data. Structure containing the Vulkan information.

Namespaces

- gpu

Enumerations

- enum gpu::Count {
  gpu::VK_SAMPLE_COUNT_1_BIT = 0x00000001, gpu::VK_SAMPLE_COUNT_2_BIT = 0x00000002, gpu::VK_SAMPLE_COUNT_4_BIT = 0x00000004, gpu::VK_SAMPLE_COUNT_8_BIT = 0x00000008, gpu::VK_SAMPLE_COUNT_16_BIT = 0x00000010, gpu::VK_SAMPLE_COUNT_32_BIT = 0x00000020, gpu::VK_SAMPLE_COUNT_64_BIT = 0x00000040, gpu::VK_SAMPLE_COUNT_FLAG_BITS_MAX_ENUM = 0x7FFFFFFF }

7.5 src/main.cpp File Reference

```
#include <QGuiApplication>
#include "vulkanwindow.h"
```

Functions

- int main (int argc, char *argv[])

7.5.1 Function Documentation

7.5.1.1 main()

```
int main (
            int argc,
            char * argv[] )
```

7.6 src/mesh.cpp File Reference

```
#include "mesh.h"
```

7.7 src/mesh.h File Reference

```
#include <QString>
#include <QFile>
```

Classes

- class Mesh

  Class for mesh. Loads the 3D model (mesh). Keeps track of vertex count and saves data in a QByteArray.

7.8 src/renderer.cpp File Reference

```
#include "renderer.h"
```

7.9 src/renderer.h File Reference

```
#include <QVulkanWindow>
#include <QVulkanFunctions>
#include <QVector>
#include <QSize>
#include <QTime>
#include <QElapsedTimer>
#include "shader.h"
#include "mesh.h"
#include "libs/Profiler.h"
```

Classes

- class Renderer

  Class for renderer. Renderer implementation based on the QVulkanWindowRenderer widget.

7.10 src/setvkinfo.cpp File Reference

```
#include "renderer.h"
```

7.11 src/shader.cpp File Reference

```
#include "shader.h"
#include <QFile>
#include <QVulkanDeviceFunctions>
```

7.12 src/shader.h File Reference

```
#include <QVulkanInstance>
```

Classes

- class Shader

  Class for shader. Loads a shader for file so that it can be used by the Vulkan Engine.

7.13 src/vulkanwindow.cpp File Reference

```
#include "vulkanwindow.h"
```

7.14 src/vulkanwindow.h File Reference

```
#include "renderer.h"
#include <QLoggingCategory>
#include <QVulkanInstance>
#include "libs/Profiler.h"
```

Classes

- class VulkanWindow

  Class for vulkan window. Vulkan Window class based on QVulkanWindow widget.

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