OpenGL Engine

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Contents

1 Namespace Index **1**

1.1 Namespace List 1

2 Hierarchical Index **3**

2.1 Class Hierarchy 3

3 Class Index **5**

3.1 Class List 5

4 File Index **7**

4.1 File List 7

5 Namespace Documentation **9**

5.1 gpu Namespace Reference 9

5.2 math Namespace Reference 9

5.3 obj Namespace Reference 9

5.3.1 Function Documentation 10

5.3.1.1 triangulate() 10

5.4 Ui Namespace Reference 10

6 Class Documentation **11**

6.1 obj::Face Class Reference . . . 11

6.1.1 Detailed Description . . . 11

6.1.2 Constructor & Destructor Documentation . . . 11

6.1.2.1 Face() [1/2] . . . 12

6.1.2.2 Face() [2/2] . . . 12

6.1.3 Member Data Documentation . . . 12

6.1.3.1 n0 . . . 12

6.1.3.2 n1 . . . 12

6.1.3.3 n2 . . . 13

6.1.3.4 tc0 . . . 13

6.1.3.5 tc1 . . . 13

6.1.3.6 tc2 . . . 13

6.1.3.7 v0 . . . 13

6.1.3.8 v1 . . . 13

6.1.3.9 v2 . . . 13

6.2 gpu::GLInfo Struct Reference . . . 14

6.2.1 Member Data Documentation . . . 18

6.2.1.1 gl_active_texture . . . 18

6.2.1.2 gl_aliased_line_width_range . . . 18

6.2.1.3 gl_array_buffer_binding . . . 18

6.2.1.4 gl_blend . . . 18

6.2.1.5 gl_blend_color . . . 18

6.2.1.6 gl_blend_dst_alpha . . . 19

6.2.1.7 gl_blend_dst_rgb . . . 19

6.2.1.8 gl_blend_equation_alpha . . . 19

6.2.1.9 gl_blend_equation_rgb . . . 19

6.2.1.10 gl_blend_src_alpha . . . 19

6.2.1.11 gl_blend_src_rgb . . . 19

6.2.1.12 gl_color_clear_value . . . 19

6.2.1.13 gl_color_logic_op . . . 19
6.2.1.14 gl_color_writemask . . . 20
6.2.1.15 gl_compressed_texture_formats . . . 20
6.2.1.16 gl_context_flags . . . 20
6.2.1.17 gl_cull_face . . . 20
6.2.1.18 gl_cull_face_mode . . . 20
6.2.1.19 gl_current_program . . . 20
6.2.1.20 gl_debug_group_stack_depth . . . 20
6.2.1.21 gl_depth_clear_value . . . 20
6.2.1.22 gl_depth_func . . . 21
6.2.1.23 gl_depth_range . . . 21
6.2.1.24 gl_depth_test . . . 21
6.2.1.25 gl_depth_writemask . . . 21
6.2.1.26 gl_dispatch_indirect_buffer_binding . . . 21
6.2.1.27 gl_dither . . . 21
6.2.1.28 gl_doublebuffer . . . 21
6.2.1.29 gl_draw_buffer . . . 21
6.2.1.30 gl_draw_framebuffer_binding . . . 22
6.2.1.31 gl_element_array_buffer_binding . . . 22
6.2.1.32 gl_fragment_shader_derivative_hint . . . 22
6.2.1.33 gl_implementation_color_read_format . . . 22
6.2.1.34 gl_implementation_color_read_type . . . 22
6.2.1.35 gl_layer_provoking_vertex . . . 22
6.2.1.36 gl_line_smooth . . . 22
6.2.1.37 gl_line_smooth_hint . . . 22
6.2.1.38 gl_line_width . . . 23
6.2.1.39 gl_logic_op_mode . . . 23
6.2.1.40 gl_major_version . . . 23
6.2.1.41 gl_max_3d_texture_size . . . 23
6.2.1.42 gl_max_array_texture_layers . . . 23

6.2.1.43 gl_max_clip_distances . . . 23
6.2.1.44 gl_max_color_texture_samples . . . 23
6.2.1.45 gl_max_combined_atomic_counters . . . 23
6.2.1.46 gl_max_combined_compute_uniform_components . . . 24
6.2.1.47 gl_max_combined_fragment_uniform_components . . . 24
6.2.1.48 gl_max_combined_geometry_uniform_components . . . 24
6.2.1.49 gl_max_combined_shader_storage_blocks . . . 24
6.2.1.50 gl_max_combined_texture_image_units . . . 24
6.2.1.51 gl_max_combined_uniform_blocks . . . 24
6.2.1.52 gl_max_combined_vertex_uniform_components . . . 24
6.2.1.53 gl_max_compute_atomic_counter_buffers . . . 24
6.2.1.54 gl_max_compute_atomic_counters . . . 25
6.2.1.55 gl_max_compute_shader_storage_blocks . . . 25
6.2.1.56 gl_max_compute_texture_image_units . . . 25
6.2.1.57 gl_max_compute_uniform_blocks . . . 25
6.2.1.58 gl_max_compute_uniform_components . . . 25
6.2.1.59 gl_max_compute_work_group_count . . . 25
6.2.1.60 gl_max_compute_work_group_size . . . 25
6.2.1.61 gl_max_cube_map_texture_size . . . 25
6.2.1.62 gl_max_debug_group_stack_depth . . . 26
6.2.1.63 gl_max_depth_texture_samples . . . 26
6.2.1.64 gl_max_draw_buffers . . . 26
6.2.1.65 gl_max_dual_source_draw_buffers . . . 26
6.2.1.66 gl_max_element_index . . . 26
6.2.1.67 gl_max_elements_indices . . . 26
6.2.1.68 gl_max_elements_vertices . . . 26
6.2.1.69 gl_max_fragment_atomic_counters . . . 26
6.2.1.70 gl_max_fragment_input_components . . . 27
6.2.1.71 gl_max_fragment_shader_storage_blocks . . . 27
6.2.1.72 gl_max_fragment_uniform_blocks . . . 27

6.2.1.73 gl_max_fragment_uniform_components . . . 27
6.2.1.74 gl_max_fragment_uniform_vectors . . . 27
6.2.1.75 gl_max_framebuffer_height . . . 27
6.2.1.76 gl_max_framebuffer_layers . . . 27
6.2.1.77 gl_max_framebuffer_samples . . . 27
6.2.1.78 gl_max_framebuffer_width . . . 28
6.2.1.79 gl_max_geometry_atomic_counters . . . 28
6.2.1.80 gl_max_geometry_input_components . . . 28
6.2.1.81 gl_max_geometry_output_components . . . 28
6.2.1.82 gl_max_geometry_shader_storage_blocks . . . 28
6.2.1.83 gl_max_geometry_texture_image_units . . . 28
6.2.1.84 gl_max_geometry_uniform_blocks . . . 28
6.2.1.85 gl_max_geometry_uniform_components . . . 28
6.2.1.86 gl_max_integer_samples . . . 29
6.2.1.87 gl_max_label_length . . . 29
6.2.1.88 gl_max_program_texel_offset . . . 29
6.2.1.89 gl_max_rectangle_texture_size . . . 29
6.2.1.90 gl_max_renderbuffer_size . . . 29
6.2.1.91 gl_max_sample_mask_words . . . 29
6.2.1.92 gl_max_server_wait_timeout . . . 29
6.2.1.93 gl_max_shader_storage_buffer_bindings . . . 29
6.2.1.94 gl_max_tess_control_atomic_counters . . . 30
6.2.1.95 gl_max_tess_control_shader_storage_blocks . . . 30
6.2.1.96 gl_max_tess_evaluation_atomic_counters . . . 30
6.2.1.97 gl_max_tess_evaluation_shader_storage_blocks . . . 30
6.2.1.98 gl_max_texture_buffer_size . . . 30
6.2.1.99 gl_max_texture_image_units . . . 30
6.2.1.100 gl_max_texture_lod_bias . . . 30
6.2.1.101 gl_max_texture_size . . . 30
6.2.1.102 gl_max_uniform_block_size . . . 31

6.2.1.103 gl_max_uniform_buffer_bindings . . . 31
6.2.1.104 gl_max_uniform_locations . . . 31
6.2.1.105 gl_max_varying_components . . . 31
6.2.1.106 gl_max_varying_floats . . . 31
6.2.1.107 gl_max_varying_vectors . . . 31
6.2.1.108 gl_max_vertex_atomic_counters . . . 31
6.2.1.109 gl_max_vertex_attrib_bindings . . . 31
6.2.1.110 gl_max_vertex_attrib_relative_offset . . . 32
6.2.1.111 gl_max_vertex_attribs . . . 32
6.2.1.112 gl_max_vertex_output_components . . . 32
6.2.1.113 gl_max_vertex_shader_storage_blocks . . . 32
6.2.1.114 gl_max_vertex_texture_image_units . . . 32
6.2.1.115 gl_max_vertex_uniform_blocks . . . 32
6.2.1.116 gl_max_vertex_uniform_components . . . 32
6.2.1.117 gl_max_vertex_uniform_vectors . . . 32
6.2.1.118 gl_max_viewport_dims . . . 33
6.2.1.119 gl_max_viewports . . . 33
6.2.1.120 gl_min_map_buffer_alignment . . . 33
6.2.1.121 gl_min_program_texel_offset . . . 33
6.2.1.122 gl_minor_version . . . 33
6.2.1.123 gl_num_compressed_texture_formats . . . 33
6.2.1.124 gl_num_extensions . . . 33
6.2.1.125 gl_num_program_binary_formats . . . 33
6.2.1.126 gl_num_shader_binary_formats . . . 34
6.2.1.127 gl_pack_alignment . . . 34
6.2.1.128 gl_pack_image_height . . . 34
6.2.1.129 gl_pack_lsb_first . . . 34
6.2.1.130 gl_pack_row_length . . . 34
6.2.1.131 gl_pack_skip_images . . . 34
6.2.1.132 gl_pack_skip_pixels . . . 34

6.2.1.133 gl_pack_skip_rows . . . 34
6.2.1.134 gl_pack_swap_bytes . . . 35
6.2.1.135 gl_pixel_pack_buffer_binding . . . 35
6.2.1.136 gl_pixel_unpack_buffer_binding . . . 35
6.2.1.137 gl_point_fade_threshold_size . . . 35
6.2.1.138 gl_point_size . . . 35
6.2.1.139 gl_point_size_granularity . . . 35
6.2.1.140 gl_point_size_range . . . 35
6.2.1.141 gl_polygon_offset_factor . . . 35
6.2.1.142 gl_polygon_offset_fill . . . 36
6.2.1.143 gl_polygon_offset_line . . . 36
6.2.1.144 gl_polygon_offset_point . . . 36
6.2.1.145 gl_polygon_offset_units . . . 36
6.2.1.146 gl_polygon_smooth . . . 36
6.2.1.147 gl_polygon_smooth_hint . . . 36
6.2.1.148 gl_primitive_restart_index . . . 36
6.2.1.149 gl_program_binary_formats . . . 36
6.2.1.150 gl_program_pipeline_binding . . . 37
6.2.1.151 gl_program_point_size . . . 37
6.2.1.152 gl_provoking_vertex . . . 37
6.2.1.153 gl_read_buffer . . . 37
6.2.1.154 gl_read_framebuffer_binding . . . 37
6.2.1.155 gl_renderbuffer_binding . . . 37
6.2.1.156 gl_sample_buffers . . . 37
6.2.1.157 gl_sample_coverage_invert . . . 37
6.2.1.158 gl_sample_coverage_value . . . 38
6.2.1.159 gl_sampler_binding . . . 38
6.2.1.160 gl_samples . . . 38
6.2.1.161 gl_scissor_box . . . 38
6.2.1.162 gl_scissor_test . . . 38

6.2.1.163 gl_shader_compiler . . . 38
6.2.1.164 gl_shader_storage_buffer_binding . . . 38
6.2.1.165 gl_shader_storage_buffer_offset_alignment . . . 38
6.2.1.166 gl_shader_storage_buffer_size . . . 39
6.2.1.167 gl_shader_storage_buffer_start . . . 39
6.2.1.168 gl_smooth_line_width_granularity . . . 39
6.2.1.169 gl_smooth_line_width_range . . . 39
6.2.1.170 gl_stencil_back_fail . . . 39
6.2.1.171 gl_stencil_back_func . . . 39
6.2.1.172 gl_stencil_back_pass_depth_fail . . . 39
6.2.1.173 gl_stencil_back_pass_depth_pass . . . 39
6.2.1.174 gl_stencil_back_ref . . . 40
6.2.1.175 gl_stencil_back_value_mask . . . 40
6.2.1.176 gl_stencil_back_writemask . . . 40
6.2.1.177 gl_stencil_clear_value . . . 40
6.2.1.178 gl_stencil_fail . . . 40
6.2.1.179 gl_stencil_func . . . 40
6.2.1.180 gl_stencil_pass_depth_fail . . . 40
6.2.1.181 gl_stencil_pass_depth_pass . . . 40
6.2.1.182 gl_stencil_ref . . . 41
6.2.1.183 gl_stencil_test . . . 41
6.2.1.184 gl_stencil_value_mask . . . 41
6.2.1.185 gl_stencil_writemask . . . 41
6.2.1.186 gl_stereo . . . 41
6.2.1.187 gl_subpixel_bits . . . 41
6.2.1.188 gl_texture_binding_1d . . . 41
6.2.1.189 gl_texture_binding_1d_array . . . 41
6.2.1.190 gl_texture_binding_2d . . . 42
6.2.1.191 gl_texture_binding_2d_array . . . 42
6.2.1.192 gl_texture_binding_2d_multisample . . . 42

6.2.1.193 gl_texture_binding_2d_multisample_array . . . 42
6.2.1.194 gl_texture_binding_3d . . . 42
6.2.1.195 gl_texture_binding_buffer . . . 42
6.2.1.196 gl_texture_binding_cube_map . . . 42
6.2.1.197 gl_texture_binding_rectangle . . . 42
6.2.1.198 gl_texture_buffer_offset_alignment . . . 43
6.2.1.199 gl_texture_compression_hint . . . 43
6.2.1.200 gl_timestamp . . . 43
6.2.1.201 gl_transform_feedback_buffer_binding . . . 43
6.2.1.202 gl_transform_feedback_buffer_size . . . 43
6.2.1.203 gl_transform_feedback_buffer_start . . . 43
6.2.1.204 gl_uniform_buffer_binding . . . 43
6.2.1.205 gl_uniform_buffer_offset_alignment . . . 43
6.2.1.206 gl_uniform_buffer_size . . . 44
6.2.1.207 gl_uniform_buffer_start . . . 44
6.2.1.208 gl_unpack_alignment . . . 44
6.2.1.209 gl_unpack_image_height . . . 44
6.2.1.210 gl_unpack_lsb_first . . . 44
6.2.1.211 gl_unpack_row_length . . . 44
6.2.1.212 gl_unpack_skip_images . . . 44
6.2.1.213 gl_unpack_skip_pixels . . . 44
6.2.1.214 gl_unpack_skip_rows . . . 45
6.2.1.215 gl_unpack_swap_bytes . . . 45
6.2.1.216 gl_vertex_array_binding . . . 45
6.2.1.217 gl_vertex_binding_divisor . . . 45
6.2.1.218 gl_vertex_binding_offset . . . 45
6.2.1.219 gl_vertex_binding_stride . . . 45
6.2.1.220 gl_viewport . . . 45
6.2.1.221 gl_viewport_bounds_range . . . 45
6.2.1.222 gl_viewport_index_provoking_vertex . . . 46

6.2.1.223 gl_viewport_subpixel_bits . . . 46
6.3 GLWidget Class Reference . . . 46
6.3.1 Detailed Description . . . 47
6.3.2 Constructor & Destructor Documentation . . . 47
6.3.2.1 GLWidget() . . . 47
6.3.2.2 ~GLWidget() . . . 47
6.3.3 Member Function Documentation . . . 47
6.3.3.1 initializeGL() . . . 47
6.3.3.2 paintGL() . . . 47
6.3.3.3 resizeGL() . . . 47
6.3.3.4 setProfiler() . . . 48
6.3.3.5 setScene() . . . 48
6.4 GLWindow Class Reference . . . 48
6.4.1 Detailed Description . . . 49
6.4.2 Constructor & Destructor Documentation . . . 49
6.4.2.1 GLWindow() . . . 49
6.4.2.2 ~GLWindow() . . . 49
6.4.3 Member Function Documentation . . . 50
6.4.3.1 setProfiler() . . . 50
6.5 Model Class Reference . . . 50
6.5.1 Detailed Description . . . 51
6.5.2 Constructor & Destructor Documentation . . . 51
6.5.2.1 Model() [1/2] . . . 51
6.5.2.2 Model() [2/2] . . . 51
6.5.2.3 ~Model() . . . 51
6.5.3 Member Function Documentation . . . 51
6.5.3.1 setup() . . . 51
6.5.4 Member Data Documentation . . . 52
6.5.4.1 indices . . . 52
6.5.4.2 m_object . . . 52

6.5.4.3 m_program . . . 52
6.5.4.4 m_vertex . . . 52
6.5.4.5 obj . . . 52
6.5.4.6 texture . . . 52
6.5.4.7 uvsBuffer . . . 52
6.6 obj::OBJ Class Reference . . . 53
6.6.1 Detailed Description . . . 53
6.6.2 Constructor & Destructor Documentation . . . 53
6.6.2.1 OBJ() [1/2] . . . 53
6.6.2.2 OBJ() [2/2] . . . 53
6.6.2.3 ~OBJ() . . . 54
6.6.3 Member Function Documentation . . . 54
6.6.3.1 addVertex() . . . 54
6.6.3.2 getFaces() . . . 54
6.6.3.3 getIndices() . . . 55
6.6.3.4 getNormals() . . . 55
6.6.3.5 getUVs() . . . 55
6.6.3.6 getVertices() . . . 55
6.6.3.7 isLoaded() . . . 55
6.6.3.8 loadModel() . . . 55
6.6.3.9 updateFaces() . . . 56
6.7 gpu::Profiler Class Reference . . . 56
6.7.1 Member Enumeration Documentation . . . 57
6.7.1.1 TYPE . . . 57
6.7.2 Constructor & Destructor Documentation . . . 58
6.7.2.1 Profiler() . . . 58
6.7.2.2 ~Profiler() . . . 58
6.7.3 Member Function Documentation . . . 58
6.7.3.1 addTrianglesEntry() . . . 58
6.7.3.2 setGLExtensions() . . . 58

6.7.3.3 setGLShadingLanguageVersion() . . . 58
6.7.3.4 setGLVersion() . . . 59
6.7.3.5 setRenderer() . . . 59
6.7.3.6 setVendor() . . . 59
6.7.4 Member Data Documentation . . . 59
6.7.4.1 glInfo . . . 59
6.8 math::Vector2 Class Reference . . . 59
6.8.1 Detailed Description . . . 60
6.8.2 Constructor & Destructor Documentation . . . 61
6.8.2.1 Vector2() [1/2] . . . 61
6.8.2.2 Vector2() [2/2] . . . 61
6.8.2.3 ∼Vector2() . . . 61
6.8.3 Member Function Documentation . . . 61
6.8.3.1 dot() . . . 61
6.8.3.2 magnitude() . . . 62
6.8.3.3 magnitudeSquared() . . . 62
6.8.3.4 normal() . . . 62
6.8.3.5 normalise() . . . 62
6.8.3.6 operator∗() . . . 62
6.8.3.7 operator∗=() . . . 63
6.8.3.8 operator+() . . . 63
6.8.3.9 operator+=() . . . 63
6.8.3.10 operator-() . . . 64
6.8.3.11 operator-=() . . . 64
6.8.3.12 operator/() . . . 64
6.8.3.13 operator/=() . . . 65
6.8.3.14 operator=() . . . 65
6.8.3.15 operator==() . . . 65
6.8.4 Member Data Documentation . . . 66
6.8.4.1 x . . . 66

6.8.4.2 y . . . 66

6.9 math::Vector3 Class Reference . . . 66

6.9.1 Detailed Description . . . 67

6.9.2 Constructor & Destructor Documentation . . . 67

6.9.2.1 Vector3() [1/2] . . . 67

6.9.2.2 Vector3() [2/2] . . . 67

6.9.2.3 ∼Vector3() . . . 68

6.9.3 Member Function Documentation . . . 68

6.9.3.1 cross() . . . 68

6.9.3.2 dot() . . . 68

6.9.3.3 magnitude() . . . 69

6.9.3.4 magnitudeSquared() . . . 69

6.9.3.5 normal() . . . 69

6.9.3.6 normalise() . . . 69

6.9.3.7 operator∗() . . . 69

6.9.3.8 operator∗=() . . . 70

6.9.3.9 operator+() . . . 70

6.9.3.10 operator+=() . . . 70

6.9.3.11 operator-() . . . 71

6.9.3.12 operator-=() . . . 71

6.9.3.13 operator/() . . . 71

6.9.3.14 operator/=() . . . 72

6.9.3.15 operator=() . . . 72

6.9.3.16 operator==() . . . 72

6.9.4 Member Data Documentation . . . 73

6.9.4.1 x . . . 73

6.9.4.2 y . . . 73

6.9.4.3 z . . . 73

7 File Documentation **75**

7.1 libs/math-library/src/MathLibrary.hpp File Reference . . . 75

7.2 libs/math-library/src/Vector2.hpp File Reference . . . 75

7.3 libs/math-library/src/Vector3.hpp File Reference . . . 75

7.4 libs/obj-loader/src/Face.hpp File Reference . . . 76

7.5 libs/obj-loader/src/OBJ.cpp File Reference . . . 76

7.6 libs/obj-loader/src/OBJ.h File Reference . . . 76

7.7 libs/profiler/src/GLInfo.hpp File Reference . . . 76

7.8 libs/profiler/src/Profiler.cpp File Reference . . . 77

7.9 libs/profiler/src/Profiler.h File Reference . . . 77

7.10 libs/triangulate/src/Triangulate.hpp File Reference . . . 77

7.11 src/getgpuinfo.cpp File Reference . . . 77

7.12 src/glwidget.cpp File Reference . . . 78

7.12.1 Macro Definition Documentation . . . 78

7.12.1.1 QT_APPLICATION . . . 78

7.13 src/glwidget.h File Reference . . . 78

7.14 src/glwindow.cpp File Reference . . . 79

7.15 src/glwindow.h File Reference . . . 79

7.16 src/main.cpp File Reference . . . 79

7.16.1 Function Documentation . . . 79

7.16.1.1 main() . . . 79

7.17 libs/triangulate/src/Main.cpp File Reference . . . 80

7.17.1 Function Documentation . . . 80

7.17.1.1 main() . . . 80

7.18 src/model.hpp File Reference . . . 80

Index **81**

Chapter 1

Namespace Index

1.1 Namespace List

Here is a list of all namespaces with brief descriptions:

gpu 9
math 9
obj 9
Ui 10

Chapter 2

Hierarchical Index

2.1 Class Hierarchy

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

obj::Face 11
gpu::GLInfo 14
Model 50
obj::OBJ 53
gpu::Profiler 56
QMainWindow
    GLWindow 48
QOpenGLFunctions
    GLWidget 46
QOpenGLWidget
    GLWidget 46
math::Vector2 59
math::Vector3 66

Chapter 3

Class Index

3.1 Class List

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

obj::Face
: Class used to represent a face . . . 11

gpu::GLInfo . . . 14

GLWidget
: Class for gl widget . . . 46

GLWindow
: Class for gl window . . . 48

Model
: Class for model . . . 50

obj::OBJ
: Class for OBJ . . . 53

gpu::Profiler . . . 56

math::Vector2
: Class for 2D vector . . . 59

math::Vector3
: Vector3 structure . . . 66

Chapter 4

File Index

4.1 File List

Here is a list of all files with brief descriptions:

libs/math-library/src/MathLibrary.hpp . . . 75
libs/math-library/src/Vector2.hpp . . . 75
libs/math-library/src/Vector3.hpp . . . 75
libs/obj-loader/src/Face.hpp . . . 76
libs/obj-loader/src/OBJ.cpp . . . 76
libs/obj-loader/src/OBJ.h . . . 76
libs/profiler/src/GLInfo.hpp . . . 76
libs/profiler/src/Profiler.cpp . . . 77
libs/profiler/src/Profiler.h . . . 77
libs/triangulate/src/Main.cpp . . . 80
libs/triangulate/src/Triangulate.hpp . . . 77
src/getgpuinfo.cpp . . . 77
src/glwidget.cpp . . . 78
src/glwidget.h . . . 78
src/glwindow.cpp . . . 79
src/glwindow.h . . . 79
src/main.cpp . . . 79
src/model.hpp . . . 80

Chapter 5

Namespace Documentation

5.1 gpu Namespace Reference

Classes

- struct GLInfo
- class Profiler

5.2 math Namespace Reference

Classes

- class Vector2

  Class for 2D vector.
- class Vector3

  Vector3 structure.

5.3 obj Namespace Reference

Classes

- class Face

  Class used to represent a face.
- class OBJ

  Class for OBJ.

Functions

- void triangulate (OBJ &model)

5.3.1 Function Documentation

5.3.1.1 triangulate()

```
void obj::triangulate (
            OBJ & model )
```

5.4 Ui Namespace Reference

Chapter 6

Class Documentation

6.1 obj::Face Class Reference

Class used to represent a face.

`#include <Face.hpp>`

Public Member Functions

- Face ()

  Constructs the object.
- Face (unsigned v0, unsigned tc0, unsigned n0, unsigned v1, unsigned tc1, unsigned n1, unsigned v2, unsigned tc2, unsigned n2)

  Constructs the object.

Public Attributes

- unsigned v0
- unsigned v1
- unsigned v2
- unsigned tc0
- unsigned tc1
- unsigned tc2
- unsigned n0
- unsigned n1
- unsigned n2

6.1.1 Detailed Description

Class used to represent a face.

6.1.2 Constructor & Destructor Documentation

6.1.2.1 Face() [1/2]

```
obj::Face::Face ( )  [inline]
```

Constructs the object.

6.1.2.2 Face() [2/2]

```
obj::Face::Face (
            unsigned v0,
            unsigned tc0,
            unsigned n0,
            unsigned v1,
            unsigned tc1,
            unsigned n1,
            unsigned v2,
            unsigned tc2,
            unsigned n2 )  [inline]
```

Constructs the object.

Parameters

in	*v0*	First vertex index
in	*tc0*	First vertex texture coordinate index
in	*n0*	First vertex normal index
in	*v1*	First vertex index
in	*tc1*	First vertex texture coordinate index
in	*n1*	First vertex normal index
in	*v2*	First vertex index
in	*tc2*	First vertex texture coordinate index
in	*n2*	First vertex normal index

6.1.3 Member Data Documentation

6.1.3.1 n0

```
unsigned obj::Face::n0
```

6.1.3.2 n1

```
unsigned obj::Face::n1
```

6.1.3.3 n2

```
unsigned obj::Face::n2
```

6.1.3.4 tc0

```
unsigned obj::Face::tc0
```

6.1.3.5 tc1

```
unsigned obj::Face::tc1
```

6.1.3.6 tc2

```
unsigned obj::Face::tc2
```

6.1.3.7 v0

```
unsigned obj::Face::v0
```

6.1.3.8 v1

```
unsigned obj::Face::v1
```

6.1.3.9 v2

```
unsigned obj::Face::v2
```

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

- libs/obj-loader/src/Face.hpp

6.2 gpu::GLInfo Struct Reference

`#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

6.2.1 Member Data Documentation

6.2.1.1 gl_active_texture

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

6.2.1.2 gl_aliased_line_width_range

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

6.2.1.3 gl_array_buffer_binding

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

6.2.1.4 gl_blend

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

6.2.1.5 gl_blend_color

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

6.2.1.6 gl_blend_dst_alpha

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

6.2.1.7 gl_blend_dst_rgb

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

6.2.1.8 gl_blend_equation_alpha

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

6.2.1.9 gl_blend_equation_rgb

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

6.2.1.10 gl_blend_src_alpha

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

6.2.1.11 gl_blend_src_rgb

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

6.2.1.12 gl_color_clear_value

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

6.2.1.13 gl_color_logic_op

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

6.2.1.14 gl_color_writemask

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

6.2.1.15 gl_compressed_texture_formats

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

6.2.1.16 gl_context_flags

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

6.2.1.17 gl_cull_face

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

6.2.1.18 gl_cull_face_mode

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

6.2.1.19 gl_current_program

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

6.2.1.20 gl_debug_group_stack_depth

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

6.2.1.21 gl_depth_clear_value

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

6.2.1.22 gl_depth_func

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

6.2.1.23 gl_depth_range

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

6.2.1.24 gl_depth_test

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

6.2.1.25 gl_depth_writemask

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

6.2.1.26 gl_dispatch_indirect_buffer_binding

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

6.2.1.27 gl_dither

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

6.2.1.28 gl_doublebuffer

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

6.2.1.29 gl_draw_buffer

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

6.2.1.30 gl_draw_framebuffer_binding

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

6.2.1.31 gl_element_array_buffer_binding

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

6.2.1.32 gl_fragment_shader_derivative_hint

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

6.2.1.33 gl_implementation_color_read_format

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

6.2.1.34 gl_implementation_color_read_type

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

6.2.1.35 gl_layer_provoking_vertex

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

6.2.1.36 gl_line_smooth

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

6.2.1.37 gl_line_smooth_hint

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

6.2.1.38 gl_line_width

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

6.2.1.39 gl_logic_op_mode

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

6.2.1.40 gl_major_version

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

6.2.1.41 gl_max_3d_texture_size

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

6.2.1.42 gl_max_array_texture_layers

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

6.2.1.43 gl_max_clip_distances

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

6.2.1.44 gl_max_color_texture_samples

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

6.2.1.45 gl_max_combined_atomic_counters

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

6.2.1.46 gl_max_combined_compute_uniform_components

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

6.2.1.47 gl_max_combined_fragment_uniform_components

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

6.2.1.48 gl_max_combined_geometry_uniform_components

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

6.2.1.49 gl_max_combined_shader_storage_blocks

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

6.2.1.50 gl_max_combined_texture_image_units

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

6.2.1.51 gl_max_combined_uniform_blocks

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

6.2.1.52 gl_max_combined_vertex_uniform_components

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

6.2.1.53 gl_max_compute_atomic_counter_buffers

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

6.2.1.54 gl_max_compute_atomic_counters

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

6.2.1.55 gl_max_compute_shader_storage_blocks

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

6.2.1.56 gl_max_compute_texture_image_units

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

6.2.1.57 gl_max_compute_uniform_blocks

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

6.2.1.58 gl_max_compute_uniform_components

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

6.2.1.59 gl_max_compute_work_group_count

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

6.2.1.60 gl_max_compute_work_group_size

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

6.2.1.61 gl_max_cube_map_texture_size

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

6.2.1.62 gl_max_debug_group_stack_depth

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

6.2.1.63 gl_max_depth_texture_samples

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

6.2.1.64 gl_max_draw_buffers

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

6.2.1.65 gl_max_dual_source_draw_buffers

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

6.2.1.66 gl_max_element_index

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

6.2.1.67 gl_max_elements_indices

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

6.2.1.68 gl_max_elements_vertices

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

6.2.1.69 gl_max_fragment_atomic_counters

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

6.2.1.70 gl_max_fragment_input_components

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

6.2.1.71 gl_max_fragment_shader_storage_blocks

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

6.2.1.72 gl_max_fragment_uniform_blocks

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

6.2.1.73 gl_max_fragment_uniform_components

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

6.2.1.74 gl_max_fragment_uniform_vectors

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

6.2.1.75 gl_max_framebuffer_height

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

6.2.1.76 gl_max_framebuffer_layers

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

6.2.1.77 gl_max_framebuffer_samples

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

6.2.1.78 gl_max_framebuffer_width

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

6.2.1.79 gl_max_geometry_atomic_counters

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

6.2.1.80 gl_max_geometry_input_components

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

6.2.1.81 gl_max_geometry_output_components

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

6.2.1.82 gl_max_geometry_shader_storage_blocks

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

6.2.1.83 gl_max_geometry_texture_image_units

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

6.2.1.84 gl_max_geometry_uniform_blocks

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

6.2.1.85 gl_max_geometry_uniform_components

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

6.2.1.86 gl_max_integer_samples

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

6.2.1.87 gl_max_label_length

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

6.2.1.88 gl_max_program_texel_offset

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

6.2.1.89 gl_max_rectangle_texture_size

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

6.2.1.90 gl_max_renderbuffer_size

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

6.2.1.91 gl_max_sample_mask_words

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

6.2.1.92 gl_max_server_wait_timeout

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

6.2.1.93 gl_max_shader_storage_buffer_bindings

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

6.2.1.94 gl_max_tess_control_atomic_counters

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

6.2.1.95 gl_max_tess_control_shader_storage_blocks

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

6.2.1.96 gl_max_tess_evaluation_atomic_counters

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

6.2.1.97 gl_max_tess_evaluation_shader_storage_blocks

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

6.2.1.98 gl_max_texture_buffer_size

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

6.2.1.99 gl_max_texture_image_units

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

6.2.1.100 gl_max_texture_lod_bias

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

6.2.1.101 gl_max_texture_size

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

6.2.1.102 gl_max_uniform_block_size

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

6.2.1.103 gl_max_uniform_buffer_bindings

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

6.2.1.104 gl_max_uniform_locations

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

6.2.1.105 gl_max_varying_components

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

6.2.1.106 gl_max_varying_floats

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

6.2.1.107 gl_max_varying_vectors

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

6.2.1.108 gl_max_vertex_atomic_counters

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

6.2.1.109 gl_max_vertex_attrib_bindings

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

6.2.1.110 gl_max_vertex_attrib_relative_offset

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

6.2.1.111 gl_max_vertex_attribs

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

6.2.1.112 gl_max_vertex_output_components

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

6.2.1.113 gl_max_vertex_shader_storage_blocks

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

6.2.1.114 gl_max_vertex_texture_image_units

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

6.2.1.115 gl_max_vertex_uniform_blocks

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

6.2.1.116 gl_max_vertex_uniform_components

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

6.2.1.117 gl_max_vertex_uniform_vectors

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

6.2.1.118 gl_max_viewport_dims

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

6.2.1.119 gl_max_viewports

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

6.2.1.120 gl_min_map_buffer_alignment

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

6.2.1.121 gl_min_program_texel_offset

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

6.2.1.122 gl_minor_version

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

6.2.1.123 gl_num_compressed_texture_formats

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

6.2.1.124 gl_num_extensions

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

6.2.1.125 gl_num_program_binary_formats

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

6.2.1.126 gl_num_shader_binary_formats

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

6.2.1.127 gl_pack_alignment

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

6.2.1.128 gl_pack_image_height

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

6.2.1.129 gl_pack_lsb_first

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

6.2.1.130 gl_pack_row_length

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

6.2.1.131 gl_pack_skip_images

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

6.2.1.132 gl_pack_skip_pixels

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

6.2.1.133 gl_pack_skip_rows

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

6.2.1.134 gl_pack_swap_bytes

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

6.2.1.135 gl_pixel_pack_buffer_binding

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

6.2.1.136 gl_pixel_unpack_buffer_binding

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

6.2.1.137 gl_point_fade_threshold_size

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

6.2.1.138 gl_point_size

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

6.2.1.139 gl_point_size_granularity

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

6.2.1.140 gl_point_size_range

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

6.2.1.141 gl_polygon_offset_factor

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

6.2.1.142 gl_polygon_offset_fill

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

6.2.1.143 gl_polygon_offset_line

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

6.2.1.144 gl_polygon_offset_point

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

6.2.1.145 gl_polygon_offset_units

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

6.2.1.146 gl_polygon_smooth

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

6.2.1.147 gl_polygon_smooth_hint

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

6.2.1.148 gl_primitive_restart_index

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

6.2.1.149 gl_program_binary_formats

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

6.2.1.150 gl_program_pipeline_binding

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

6.2.1.151 gl_program_point_size

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

6.2.1.152 gl_provoking_vertex

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

6.2.1.153 gl_read_buffer

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

6.2.1.154 gl_read_framebuffer_binding

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

6.2.1.155 gl_renderbuffer_binding

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

6.2.1.156 gl_sample_buffers

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

6.2.1.157 gl_sample_coverage_invert

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

6.2.1.158 gl_sample_coverage_value

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

6.2.1.159 gl_sampler_binding

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

6.2.1.160 gl_samples

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

6.2.1.161 gl_scissor_box

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

6.2.1.162 gl_scissor_test

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

6.2.1.163 gl_shader_compiler

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

6.2.1.164 gl_shader_storage_buffer_binding

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

6.2.1.165 gl_shader_storage_buffer_offset_alignment

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

6.2.1.166 gl_shader_storage_buffer_size

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

6.2.1.167 gl_shader_storage_buffer_start

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

6.2.1.168 gl_smooth_line_width_granularity

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

6.2.1.169 gl_smooth_line_width_range

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

6.2.1.170 gl_stencil_back_fail

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

6.2.1.171 gl_stencil_back_func

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

6.2.1.172 gl_stencil_back_pass_depth_fail

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

6.2.1.173 gl_stencil_back_pass_depth_pass

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

6.2.1.174 gl_stencil_back_ref

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

6.2.1.175 gl_stencil_back_value_mask

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

6.2.1.176 gl_stencil_back_writemask

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

6.2.1.177 gl_stencil_clear_value

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

6.2.1.178 gl_stencil_fail

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

6.2.1.179 gl_stencil_func

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

6.2.1.180 gl_stencil_pass_depth_fail

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

6.2.1.181 gl_stencil_pass_depth_pass

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

6.2.1.182 gl_stencil_ref

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

6.2.1.183 gl_stencil_test

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

6.2.1.184 gl_stencil_value_mask

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

6.2.1.185 gl_stencil_writemask

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

6.2.1.186 gl_stereo

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

6.2.1.187 gl_subpixel_bits

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

6.2.1.188 gl_texture_binding_1d

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

6.2.1.189 gl_texture_binding_1d_array

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

6.2.1.190 gl_texture_binding_2d

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

6.2.1.191 gl_texture_binding_2d_array

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

6.2.1.192 gl_texture_binding_2d_multisample

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

6.2.1.193 gl_texture_binding_2d_multisample_array

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

6.2.1.194 gl_texture_binding_3d

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

6.2.1.195 gl_texture_binding_buffer

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

6.2.1.196 gl_texture_binding_cube_map

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

6.2.1.197 gl_texture_binding_rectangle

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

6.2.1.198 gl_texture_buffer_offset_alignment

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

6.2.1.199 gl_texture_compression_hint

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

6.2.1.200 gl_timestamp

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

6.2.1.201 gl_transform_feedback_buffer_binding

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

6.2.1.202 gl_transform_feedback_buffer_size

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

6.2.1.203 gl_transform_feedback_buffer_start

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

6.2.1.204 gl_uniform_buffer_binding

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

6.2.1.205 gl_uniform_buffer_offset_alignment

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

6.2.1.206 gl_uniform_buffer_size

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

6.2.1.207 gl_uniform_buffer_start

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

6.2.1.208 gl_unpack_alignment

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

6.2.1.209 gl_unpack_image_height

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

6.2.1.210 gl_unpack_lsb_first

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

6.2.1.211 gl_unpack_row_length

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

6.2.1.212 gl_unpack_skip_images

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

6.2.1.213 gl_unpack_skip_pixels

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

6.2.1.214 gl_unpack_skip_rows

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

6.2.1.215 gl_unpack_swap_bytes

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

6.2.1.216 gl_vertex_array_binding

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

6.2.1.217 gl_vertex_binding_divisor

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

6.2.1.218 gl_vertex_binding_offset

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

6.2.1.219 gl_vertex_binding_stride

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

6.2.1.220 gl_viewport

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

6.2.1.221 gl_viewport_bounds_range

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

6.2.1.222 gl_viewport_index_provoking_vertex

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

6.2.1.223 gl_viewport_subpixel_bits

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

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

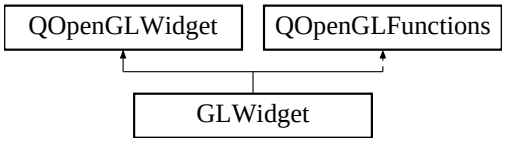
- libs/profiler/src/GLInfo.hpp

6.3 GLWidget Class Reference

Class for gl widget.

```
#include <glwidget.h>
```

Inheritance diagram for GLWidget:



Public Member Functions

- GLWidget (QWidget *parent=nullptr)
  Constructs the object.
- ~GLWidget ()
- bool setScene (QString modelPath, QString texturePath)
  Sets the scene.
- void setProfiler (gpu::Profiler *p)
  Sets the profiler.

Protected Member Functions

- void initializeGL ()
  Initialises OpenGL.
- void paintGL ()
  Rendering function.
- void resizeGL (int width, int height)
  Handles widget resize.

6.3.1 Detailed Description

Class for gl widget.

6.3.2 Constructor & Destructor Documentation

6.3.2.1 GLWidget()

```
GLWidget::GLWidget (
            QWidget * parent = nullptr )
```

Constructs the object.

Parameters

parent	The parent

6.3.2.2 ~GLWidget()

```
GLWidget::~GLWidget ( )  [inline]
```

6.3.3 Member Function Documentation

6.3.3.1 initializeGL()

```
void GLWidget::initializeGL ( )  [protected]
```

Initialises OpenGL.

6.3.3.2 paintGL()

```
void GLWidget::paintGL ( )  [protected]
```

Rendering function.

6.3.3.3 resizeGL()

```
void GLWidget::resizeGL (
            int width,
            int height )  [protected]
```

Handles widget resize.

Parameters

in	*width*	The width
in	*height*	The height

6.3.3.4 setProfiler()

```
void GLWidget::setProfiler (
            gpu::Profiler * p )  [inline]
```

Sets the profiler.

Parameters

p	GPU Profiler

6.3.3.5 setScene()

```
bool GLWidget::setScene (
            QString modelPath,
            QString texturePath )
```

Sets the scene.

Parameters

in	*modelPath*	The model path
in	*texturePath*	The texture path

Returns

True if the scene is loaded successfully, False otherwise.

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

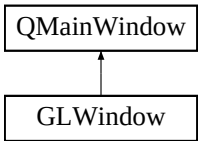
- src/glwidget.h
- src/getgpuinfo.cpp
- src/glwidget.cpp

6.4 GLWindow Class Reference

Class for gl window.

```
#include <glwindow.h>
```

Inheritance diagram for GLWindow:



Public Member Functions

- GLWindow (QWidget *parent=nullptr)

  Constructs the object.
- ~GLWindow ()

  Destroys the object.
- void setProfiler (gpu::Profiler *p)

  Sets the profiler.

6.4.1 Detailed Description

Class for gl window.

6.4.2 Constructor & Destructor Documentation

6.4.2.1 GLWindow()

```
GLWindow::GLWindow (
            QWidget * parent = nullptr )  [explicit]
```

Constructs the object.

Parameters

parent	The parent

6.4.2.2 ~GLWindow()

```
GLWindow::~GLWindow ( )
```

Destroys the object.

6.4.3 Member Function Documentation

6.4.3.1 setProfiler()

```
void GLWindow::setProfiler (
            gpu::Profiler * p )  [inline]
```

Sets the profiler.

Parameters

p	Profiler

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

- src/glwindow.h
- src/glwindow.cpp

6.5 Model Class Reference

Class for model.

```
#include <model.hpp>
```

Public Member Functions

- Model ()
  Constructs the object.
- Model (const Model &m)
  Constructs the object.
- ~Model ()
  Destroys the object.
- void setup ()
  Setups the model.

Public Attributes

- obj::OBJ obj
- std::vector< unsigned int > indices
- QOpenGLBuffer m_vertex
- QOpenGLBuffer uvsBuffer
- QOpenGLVertexArrayObject m_object
- QOpenGLShaderProgram * m_program
- QOpenGLTexture * texture

6.5.1 Detailed Description

Class for model.

6.5.2 Constructor & Destructor Documentation

6.5.2.1 Model() [1/2]

```
Model::Model ( )  [inline]
```

Constructs the object.

6.5.2.2 Model() [2/2]

```
Model::Model (
            const Model & m )  [inline]
```

Constructs the object.

Parameters

in	*m*	Model to copy

6.5.2.3 ~Model()

```
Model::~Model ( )  [inline]
```

Destroys the object.

6.5.3 Member Function Documentation

6.5.3.1 setup()

```
void Model::setup ( )  [inline]
```

Setups the model.

6.5.4 Member Data Documentation

6.5.4.1 indices

```
std::vector<unsigned int> Model::indices
```

6.5.4.2 m_object

```
QOpenGLVertexArrayObject Model::m_object
```

6.5.4.3 m_program

```
QOpenGLShaderProgram* Model::m_program
```

6.5.4.4 m_vertex

```
QOpenGLBuffer Model::m_vertex
```

6.5.4.5 obj

```
obj::OBJ Model::obj
```

6.5.4.6 texture

```
QOpenGLTexture* Model::texture
```

6.5.4.7 uvsBuffer

```
QOpenGLBuffer Model::uvsBuffer
```

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

- src/model.hpp

6.6 obj::OBJ Class Reference

Class for OBJ.

`#include <OBJ.h>`

Public Member Functions

- OBJ ()
  Constructs the object.
- OBJ (const char *modelPath)
  Constructs the object.
- ~OBJ ()
  Destroys the object.
- void loadModel (const char *filename)
  Loads a model.
- bool isLoaded ()
  Determines if loaded.
- std::vector< math::Vector3 > getVertices ()
  Gets the vertices.
- std::vector< math::Vector3 > getNormals ()
  Gets the normals.
- std::vector< math::Vector2 > getUVs ()
  Gets the texture coordinates.
- std::vector< Face > getFaces ()
  Gets the faces.
- std::vector< unsigned > getIndices ()
  Gets the indices.
- unsigned int addVertex (math::Vector3 vertex)
  Adds a vertex.
- void updateFaces (std::vector< Face > newFaces)
  Updates the faces.

6.6.1 Detailed Description

Class for OBJ.

6.6.2 Constructor & Destructor Documentation

6.6.2.1 OBJ() [1/2]

```
OBJ::OBJ ( )
```

Constructs the object.

6.6.2.2 OBJ() [2/2]

```
OBJ::OBJ (
            const char * modelPath )
```

Constructs the object.

Parameters

in	*modelPath*	The model path

6.6.2.3 ~OBJ()

```
obj::OBJ::~OBJ ( )  [inline]
```

Destroys the object.

6.6.3 Member Function Documentation

6.6.3.1 addVertex()

```
unsigned int OBJ::addVertex (
            math::Vector3 vertex )
```

Adds a vertex.

Parameters

in	*vertex*	The vertex

Returns

Vertex index.

6.6.3.2 getFaces()

```
std::vector<Face> obj::OBJ::getFaces ( )  [inline]
```

Gets the faces.

Returns

The faces.

6.6.3.3 getIndices()

```
std::vector< unsigned > OBJ::getIndices ( )
```

Gets the indices.

Returns

The indices.

6.6.3.4 getNormals()

```
std::vector<math::Vector3> obj::OBJ::getNormals ( )  [inline]
```

Gets the normals.

Returns

The normals.

6.6.3.5 getUVs()

```
std::vector<math::Vector2> obj::OBJ::getUVs ( )  [inline]
```

Gets the texture coordinates.

Returns

The texture coordinates.

6.6.3.6 getVertices()

```
std::vector<math::Vector3> obj::OBJ::getVertices ( )  [inline]
```

Gets the vertices.

Returns

The vertices.

6.6.3.7 isLoaded()

```
bool obj::OBJ::isLoaded ( )  [inline]
```

Determines if loaded.

Returns

True if loaded, False otherwise.

6.6.3.8 loadModel()

```
void OBJ::loadModel (
            const char * filename )
```

Loads a model.

Parameters

in	*filename*	The filename

6.6.3.9 updateFaces()

```
void obj::OBJ::updateFaces (
            std::vector< Face > newFaces )  [inline]
```

Updates the faces.

Parameters

in	*newFaces*	The new faces

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

- libs/obj-loader/src/OBJ.h
- libs/obj-loader/src/OBJ.cpp

6.7 gpu::Profiler Class Reference

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

Public Types

- enum TYPE { TRIANGLES }

Public Member Functions

- Profiler ()
- ~Profiler ()
- void setVendor (std::string data)
- void setRenderer (std::string data)
- void setGLVersion (std::string data)
- void setGLShadingLanguageVersion (std::string data)
- void setGLExtensions (std::string data)
- void addTrianglesEntry (unsigned numberOfTriangles, unsigned time)

Public Attributes

- GLInfo glInfo

6.7.1 Member Enumeration Documentation

6.7.1.1 TYPE

enum gpu::Profiler::TYPE

Enumerator

TRIANGLES	

6.7.2 Constructor & Destructor Documentation

6.7.2.1 Profiler()

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

6.7.2.2 ~Profiler()

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

6.7.3 Member Function Documentation

6.7.3.1 addTrianglesEntry()

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

6.7.3.2 setGLExtensions()

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

6.7.3.3 setGLShadingLanguageVersion()

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

6.7.3.4 setGLVersion()

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

6.7.3.5 setRenderer()

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

6.7.3.6 setVendor()

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

6.7.4 Member Data Documentation

6.7.4.1 glInfo

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

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

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

6.8 math::Vector2 Class Reference

Class for 2D vector.

```
#include <Vector2.hpp>
```

Public Member Functions

- Vector2 ()

  Constructs the object.
- Vector2 (double x, double y)

  Constructs the object.
- ~Vector2 ()

  Destroys the object.
- Vector2 operator+ (const Vector2 &other)

  Overloads + operator.
- void operator+= (const Vector2 &other)

  Overloads += operator.
- Vector2 operator- (const Vector2 &other)

  Overloads - operator.
- void operator-= (const Vector2 &other)

  Overloads -= operator.
- void operator= (const Vector2 &other)

  Overloads = operator.
- bool operator== (const Vector2 &other)

  Overloads == operator.
- Vector2 operator* (double value)

  *Overloads * operator.*
- void operator*= (double value)

  *Overloads *= operator.*
- Vector2 operator/ (double value)

  Overloads / operator.
- void operator/= (double value)

  Overloads /= operator.
- double dot (Vector2 &other)

  Dot product.
- Vector2 normal ()

  Computes the vector mormal.
- void normalise ()

  Normalises the vector.
- double magnitude ()

  Computes the magnitude.
- double magnitudeSquared ()

  Computes the magnitude squared.

Public Attributes

- double x
- double y

6.8.1 Detailed Description

Class for 2D vector.

6.8.2 Constructor & Destructor Documentation

6.8.2.1 Vector2() [1/2]

```
math::Vector2::Vector2 ( )  [inline]
```

Constructs the object.

6.8.2.2 Vector2() [2/2]

```
math::Vector2::Vector2 (
            double x,
            double y )  [inline]
```

Constructs the object.

Parameters

in	*x*	x value
in	*y*	y value

6.8.2.3 ~Vector2()

```
math::Vector2::~Vector2 ( )  [inline]
```

Destroys the object.

6.8.3 Member Function Documentation

6.8.3.1 dot()

```
double math::Vector2::dot (
            Vector2 & other )  [inline]
```

Dot product.

Parameters

other	The other vector

Returns

Result of the dot product.

6.8.3.2 magnitude()

```
double math::Vector2::magnitude ( )  [inline]
```

Computes the magnitude.

Returns

The vector magnitude.

6.8.3.3 magnitudeSquared()

```
double math::Vector2::magnitudeSquared ( )  [inline]
```

Computes the magnitude squared.

Returns

The magnitude squared.

6.8.3.4 normal()

```
Vector2 math::Vector2::normal ( )  [inline]
```

Computes the vector mormal.

Returns

Normal 2D vector.

6.8.3.5 normalise()

```
void math::Vector2::normalise ( )  [inline]
```

Normalises the vector.

6.8.3.6 operator∗()

```
Vector2 math::Vector2::operator* (
            double value )  [inline]
```

Overloads ∗ operator.

Parameters

in	*value*	The value

Returns

Result of the multiplication.

6.8.3.7 operator*=()

```
void math::Vector2::operator*= (
            double value )  [inline]
```

Overloads *= operator.

Parameters

in	*value*	The value

6.8.3.8 operator+()

```
Vector2 math::Vector2::operator+ (
            const Vector2 & other )  [inline]
```

Overloads + operator.

Parameters

other	The other vector

Returns

Result of addition.

6.8.3.9 operator+=()

```
void math::Vector2::operator+= (
            const Vector2 & other )  [inline]
```

Overloads += operator.

Parameters

other	The other vector

6.8.3.10 operator-()

```
Vector2 math::Vector2::operator- (
            const Vector2 & other )  [inline]
```

Overloads - operator.

Parameters

other	The other vector

Returns

Result of the substraction.

6.8.3.11 operator-=()

```
void math::Vector2::operator-= (
            const Vector2 & other )  [inline]
```

Overloads -= operator.

Parameters

other	The other vector

6.8.3.12 operator/()

```
Vector2 math::Vector2::operator/ (
            double value )  [inline]
```

Overloads / operator.

Parameters

in	*value*	The value

Returns

Result of the division.

6.8.3.13 operator/=()

```
void math::Vector2::operator/= (
            double value )  [inline]
```

Overloads /= operator.

Parameters

in	*value*	The value

6.8.3.14 operator=()

```
void math::Vector2::operator= (
            const Vector2 & other )  [inline]
```

Overloads = operator.

Parameters

in	*other*	The other vector

6.8.3.15 operator==()

```
bool math::Vector2::operator== (
            const Vector2 & other )  [inline]
```

Overloads == operator.

Parameters

other	The other vector

Returns

True if vectors are the same, False otherwise.

6.8.4 Member Data Documentation

6.8.4.1 x

```
double math::Vector2::x
```

6.8.4.2 y

```
double math::Vector2::y
```

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

- libs/math-library/src/Vector2.hpp

6.9 math::Vector3 Class Reference

Vector3 structure.

```
#include <Vector3.hpp>
```

Public Member Functions

- Vector3 ()
- Vector3 (double x, double y, double z)
  Constructor.
- ~Vector3 ()
  Destroys the object.
- Vector3 operator+ (const Vector3 &other)
  Overloads + operator.
- void operator+= (const Vector3 &other)
  Overloads += operator.
- Vector3 operator- (const Vector3 &other)
  Overloads - operator.
- void operator-= (const Vector3 &other)
  Overloads -= operator.
- void operator= (const Vector3 &other)
  Overloads equal operator.
- bool operator== (const Vector3 &other)
  Overloads == operator.
- Vector3 operator* (double other)
  Overloads multiplication with double.
- void operator*= (double other)
  *Overloads *= operator.*

- Vector3 operator/ (double other)

  Overloads division with double.
- void operator/= (double other)

  Overloads /= operator.
- double dot (const Vector3 &other)

  Dot product.
- Vector3 cross (const Vector3 &other)

  Cross product.
- Vector3 normal ()

  Computes the vector mormal.
- void normalise ()

  Normalises the vector.
- double magnitude ()

  Computes the vector magnitude.
- double magnitudeSquared ()

  Computes the magnitude squared.

Public Attributes

- double x
- double y
- double z

6.9.1 Detailed Description

Vector3 structure.

6.9.2 Constructor & Destructor Documentation

6.9.2.1 Vector3() [1/2]

```
math::Vector3::Vector3 ( )  [inline]
```

Default constructor.

6.9.2.2 Vector3() [2/2]

```
math::Vector3::Vector3 (
            double x,
            double y,
            double z )  [inline]
```

Constructor.

Parameters

in	*x*	x value
in	*y*	y value
in	*z*	z value

6.9.2.3 ~Vector3()

```
math::Vector3::~Vector3 ( )  [inline]
```

Destroys the object.

6.9.3 Member Function Documentation

6.9.3.1 cross()

```
Vector3 math::Vector3::cross (
            const Vector3 & other )  [inline]
```

Cross product.

Parameters

in	*other*	The other Vector3

Returns

Result of the cross product.

6.9.3.2 dot()

```
double math::Vector3::dot (
            const Vector3 & other )  [inline]
```

Dot product.

Parameters

other	The other vector

Returns

Result of the dot product.

6.9.3.3 magnitude()

```
double math::Vector3::magnitude ( )  [inline]
```

Computes the vector magnitude.

Returns

Magnitude.

6.9.3.4 magnitudeSquared()

```
double math::Vector3::magnitudeSquared ( )  [inline]
```

Computes the magnitude squared.

Returns

Magnitude squared.

6.9.3.5 normal()

```
Vector3 math::Vector3::normal ( )  [inline]
```

Computes the vector mormal.

Returns

Normal 3D vector.

6.9.3.6 normalise()

```
void math::Vector3::normalise ( )  [inline]
```

Normalises the vector.

6.9.3.7 operator∗()

```
Vector3 math::Vector3::operator* (
            double other )  [inline]
```

Overloads multiplication with double.

Parameters

in	*other*	Double value

Returns

Multiplication result.

6.9.3.8 operator*=()

```
void math::Vector3::operator*= (
            double other )  [inline]
```

Overloads *= operator.

Parameters

in	*other*	Double value

6.9.3.9 operator+()

```
Vector3 math::Vector3::operator+ (
            const Vector3 & other )  [inline]
```

Overloads + operator.

Parameters

in	*other*	The other Vector3

Returns

Sum of the two vectors.

6.9.3.10 operator+=()

```
void math::Vector3::operator+= (
            const Vector3 & other )  [inline]
```

Overloads += operator.

Parameters

in	*other*	The other Vector3

6.9.3.11 operator-()

```
Vector3 math::Vector3::operator- (
            const Vector3 & other )  [inline]
```

Overloads - operator.

Parameters

in	*other*	The other Vector3

Returns

Substraction of the two vectors.

6.9.3.12 operator-=()

```
void math::Vector3::operator-= (
            const Vector3 & other )  [inline]
```

Overloads -= operator.

Parameters

in	*other*	The other Vector3

6.9.3.13 operator/()

```
Vector3 math::Vector3::operator/ (
            double other )  [inline]
```

Overloads division with double.

Parameters

in	*other*	Double value

Returns

Division result.

6.9.3.14 operator/=()

```
void math::Vector3::operator/= (
            double other )  [inline]
```

Overloads /= operator.

Parameters

in	*other*	Double value

6.9.3.15 operator=()

```
void math::Vector3::operator= (
            const Vector3 & other )  [inline]
```

Overloads equal operator.

Parameters

in	*other*	The other Vector3

6.9.3.16 operator==()

```
bool math::Vector3::operator== (
            const Vector3 & other )  [inline]
```

Overloads == operator.

Parameters

other	The other vector

Returns

True if vectors are the same, False otherwise.

6.9.4 Member Data Documentation

6.9.4.1 x

```
double math::Vector3::x
```

6.9.4.2 y

```
double math::Vector3::y
```

6.9.4.3 z

```
double math::Vector3::z
```

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

- libs/math-library/src/Vector3.hpp

Chapter 7

File Documentation

7.1 libs/math-library/src/MathLibrary.hpp File Reference

```
#include "Vector2.hpp"
#include "Vector3.hpp"
```

7.2 libs/math-library/src/Vector2.hpp File Reference

```
#include <cmath>
```

Classes

- class math::Vector2

  Class for 2D vector.

Namespaces

- math

7.3 libs/math-library/src/Vector3.hpp File Reference

```
#include <cmath>
```

Classes

- class math::Vector3

  Vector3 structure.

Namespaces

- math

7.4 libs/obj-loader/src/Face.hpp File Reference

Classes

- class obj::Face
  Class used to represent a face.

Namespaces

- obj

7.5 libs/obj-loader/src/OBJ.cpp File Reference

```
#include "OBJ.h"
```

7.6 libs/obj-loader/src/OBJ.h File Reference

```
#include <string>
#include <fstream>
#include <sstream>
#include <vector>
#include <algorithm>
#include "MathLibrary.hpp"
#include "Face.hpp"
```

Classes

- class obj::OBJ
  Class for OBJ.

Namespaces

- obj

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

Classes

- struct gpu::GLInfo

Namespaces

- gpu

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

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

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

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

Classes

- class gpu::Profiler

Namespaces

- gpu

7.10 libs/triangulate/src/Triangulate.hpp File Reference

```
#include "lib/obj-loader/src/OBJ.h"
```

Namespaces

- obj

Functions

- void obj::triangulate (OBJ &model)

7.11 src/getgpuinfo.cpp File Reference

```
#include "glwidget.h"
```

7.12 src/glwidget.cpp File Reference

```
#include "glwidget.h"
#include <QFile>
#include <QDebug>
#include <QDir>
#include <omp.h>
#include "libs/Triangulate.hpp"
```

Macros

- #define QT_APPLICATION

7.12.1 Macro Definition Documentation

7.12.1.1 QT_APPLICATION

```
#define QT_APPLICATION
```

7.13 src/glwidget.h File Reference

```
#include <QtGlobal>
#include <QOpenGLWidget>
#include <QOpenGLFunctions>
#include <QOpenGLBuffer>
#include <QOpenGLVertexArrayObject>
#include <QOpenGLShaderProgram>
#include <QOpenGLTexture>
#include <QKeyEvent>
#include <QDebug>
#include <QElapsedTimer>
#include <QTimer>
#include <map>
#include "model.hpp"
#include "libs/Profiler.h"
```

Classes

- class GLWidget

  Class for gl widget.

7.14 src/glwindow.cpp File Reference

```
#include "glwindow.h"
#include "ui_glwindow.h"
```

7.15 src/glwindow.h File Reference

```
#include <QMainWindow>
#include "glwidget.h"
```

Classes

- class GLWindow

  Class for gl window.

Namespaces

- Ui

7.16 src/main.cpp File Reference

```
#include "glwindow.h"
#include <QApplication>
```

Functions

- int main (int argc, char ∗argv[ ])

7.16.1 Function Documentation

7.16.1.1 main()

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

7.17 libs/triangulate/src/Main.cpp File Reference

Functions

- int main (int argc, char const ∗argv[ ])

7.17.1 Function Documentation

7.17.1.1 main()

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

7.18 src/model.hpp File Reference

```
#include "libs/OBJ.h"
#include <vector>
#include <QOpenGLBuffer>
#include <QOpenGLVertexArrayObject>
#include <QOpenGLShaderProgram>
#include <QOpenGLTexture>
```

Classes

- class Model

  Class for model.

Index

~GLWidget
    GLWidget, 47
~GLWindow
    GLWindow, 49
~Model
    Model, 51
~OBJ
    obj::OBJ, 54
~Profiler
    gpu::Profiler, 58
~Vector2
    math::Vector2, 61
~Vector3
    math::Vector3, 68

addTrianglesEntry
    gpu::Profiler, 58
addVertex
    obj::OBJ, 54

cross
    math::Vector3, 68

dot
    math::Vector2, 61
    math::Vector3, 68

Face
    obj::Face, 11, 12

GLWidget, 46
    ~GLWidget, 47
    GLWidget, 47
    initializeGL, 47
    paintGL, 47
    resizeGL, 47
    setProfiler, 48
    setScene, 48
GLWindow, 48
    ~GLWindow, 49
    GLWindow, 49
    setProfiler, 50
getFaces
    obj::OBJ, 54
getIndices
    obj::OBJ, 54
getNormals
    obj::OBJ, 55
getUVs
    obj::OBJ, 55
getVertices
    obj::OBJ, 55
gl_active_texture
    gpu::GLInfo, 18
gl_aliased_line_width_range
    gpu::GLInfo, 18
gl_array_buffer_binding
    gpu::GLInfo, 18
gl_blend
    gpu::GLInfo, 18
gl_blend_color
    gpu::GLInfo, 18
gl_blend_dst_alpha
    gpu::GLInfo, 18
gl_blend_dst_rgb
    gpu::GLInfo, 19
gl_blend_equation_alpha
    gpu::GLInfo, 19
gl_blend_equation_rgb
    gpu::GLInfo, 19
gl_blend_src_alpha
    gpu::GLInfo, 19
gl_blend_src_rgb
    gpu::GLInfo, 19
gl_color_clear_value
    gpu::GLInfo, 19
gl_color_logic_op
    gpu::GLInfo, 19
gl_color_writemask
    gpu::GLInfo, 19
gl_compressed_texture_formats
    gpu::GLInfo, 20
gl_context_flags
    gpu::GLInfo, 20
gl_cull_face
    gpu::GLInfo, 20
gl_cull_face_mode
    gpu::GLInfo, 20
gl_current_program
    gpu::GLInfo, 20
gl_debug_group_stack_depth
    gpu::GLInfo, 20
gl_depth_clear_value
    gpu::GLInfo, 20
gl_depth_func
    gpu::GLInfo, 20
gl_depth_range
    gpu::GLInfo, 21
gl_depth_test
    gpu::GLInfo, 21

gl_depth_writemask
gpu::GLInfo, 21
gl_dispatch_indirect_buffer_binding
gpu::GLInfo, 21
gl_dither
gpu::GLInfo, 21
gl_doublebuffer
gpu::GLInfo, 21
gl_draw_buffer
gpu::GLInfo, 21
gl_draw_framebuffer_binding
gpu::GLInfo, 21
gl_element_array_buffer_binding
gpu::GLInfo, 22
gl_fragment_shader_derivative_hint
gpu::GLInfo, 22
gl_implementation_color_read_format
gpu::GLInfo, 22
gl_implementation_color_read_type
gpu::GLInfo, 22
gl_layer_provoking_vertex
gpu::GLInfo, 22
gl_line_smooth
gpu::GLInfo, 22
gl_line_smooth_hint
gpu::GLInfo, 22
gl_line_width
gpu::GLInfo, 22
gl_logic_op_mode
gpu::GLInfo, 23
gl_major_version
gpu::GLInfo, 23
gl_max_3d_texture_size
gpu::GLInfo, 23
gl_max_array_texture_layers
gpu::GLInfo, 23
gl_max_clip_distances
gpu::GLInfo, 23
gl_max_color_texture_samples
gpu::GLInfo, 23
gl_max_combined_atomic_counters
gpu::GLInfo, 23
gl_max_combined_compute_uniform_components
gpu::GLInfo, 23
gl_max_combined_fragment_uniform_components
gpu::GLInfo, 24
gl_max_combined_geometry_uniform_components
gpu::GLInfo, 24
gl_max_combined_shader_storage_blocks
gpu::GLInfo, 24
gl_max_combined_texture_image_units
gpu::GLInfo, 24
gl_max_combined_uniform_blocks
gpu::GLInfo, 24
gl_max_combined_vertex_uniform_components
gpu::GLInfo, 24
gl_max_compute_atomic_counter_buffers
gpu::GLInfo, 24
gl_max_compute_atomic_counters
gpu::GLInfo, 24
gl_max_compute_shader_storage_blocks
gpu::GLInfo, 25
gl_max_compute_texture_image_units
gpu::GLInfo, 25
gl_max_compute_uniform_blocks
gpu::GLInfo, 25
gl_max_compute_uniform_components
gpu::GLInfo, 25
gl_max_compute_work_group_count
gpu::GLInfo, 25
gl_max_compute_work_group_size
gpu::GLInfo, 25
gl_max_cube_map_texture_size
gpu::GLInfo, 25
gl_max_debug_group_stack_depth
gpu::GLInfo, 25
gl_max_depth_texture_samples
gpu::GLInfo, 26
gl_max_draw_buffers
gpu::GLInfo, 26
gl_max_dual_source_draw_buffers
gpu::GLInfo, 26
gl_max_element_index
gpu::GLInfo, 26
gl_max_elements_indices
gpu::GLInfo, 26
gl_max_elements_vertices
gpu::GLInfo, 26
gl_max_fragment_atomic_counters
gpu::GLInfo, 26
gl_max_fragment_input_components
gpu::GLInfo, 26
gl_max_fragment_shader_storage_blocks
gpu::GLInfo, 27
gl_max_fragment_uniform_blocks
gpu::GLInfo, 27
gl_max_fragment_uniform_components
gpu::GLInfo, 27
gl_max_fragment_uniform_vectors
gpu::GLInfo, 27
gl_max_framebuffer_height
gpu::GLInfo, 27
gl_max_framebuffer_layers
gpu::GLInfo, 27
gl_max_framebuffer_samples
gpu::GLInfo, 27
gl_max_framebuffer_width
gpu::GLInfo, 27
gl_max_geometry_atomic_counters
gpu::GLInfo, 28
gl_max_geometry_input_components
gpu::GLInfo, 28
gl_max_geometry_output_components
gpu::GLInfo, 28
gl_max_geometry_shader_storage_blocks
gpu::GLInfo, 28

gl_max_geometry_texture_image_units
gpu::GLInfo, 28
gl_max_geometry_uniform_blocks
gpu::GLInfo, 28
gl_max_geometry_uniform_components
gpu::GLInfo, 28
gl_max_integer_samples
gpu::GLInfo, 28
gl_max_label_length
gpu::GLInfo, 29
gl_max_program_texel_offset
gpu::GLInfo, 29
gl_max_rectangle_texture_size
gpu::GLInfo, 29
gl_max_renderbuffer_size
gpu::GLInfo, 29
gl_max_sample_mask_words
gpu::GLInfo, 29
gl_max_server_wait_timeout
gpu::GLInfo, 29
gl_max_shader_storage_buffer_bindings
gpu::GLInfo, 29
gl_max_tess_control_atomic_counters
gpu::GLInfo, 29
gl_max_tess_control_shader_storage_blocks
gpu::GLInfo, 30
gl_max_tess_evaluation_atomic_counters
gpu::GLInfo, 30
gl_max_tess_evaluation_shader_storage_blocks
gpu::GLInfo, 30
gl_max_texture_buffer_size
gpu::GLInfo, 30
gl_max_texture_image_units
gpu::GLInfo, 30
gl_max_texture_lod_bias
gpu::GLInfo, 30
gl_max_texture_size
gpu::GLInfo, 30
gl_max_uniform_block_size
gpu::GLInfo, 30
gl_max_uniform_buffer_bindings
gpu::GLInfo, 31
gl_max_uniform_locations
gpu::GLInfo, 31
gl_max_varying_components
gpu::GLInfo, 31
gl_max_varying_floats
gpu::GLInfo, 31
gl_max_varying_vectors
gpu::GLInfo, 31
gl_max_vertex_atomic_counters
gpu::GLInfo, 31
gl_max_vertex_attrib_bindings
gpu::GLInfo, 31
gl_max_vertex_attrib_relative_offset
gpu::GLInfo, 31
gl_max_vertex_attribs
gpu::GLInfo, 32
gl_max_vertex_output_components
gpu::GLInfo, 32
gl_max_vertex_shader_storage_blocks
gpu::GLInfo, 32
gl_max_vertex_texture_image_units
gpu::GLInfo, 32
gl_max_vertex_uniform_blocks
gpu::GLInfo, 32
gl_max_vertex_uniform_components
gpu::GLInfo, 32
gl_max_vertex_uniform_vectors
gpu::GLInfo, 32
gl_max_viewport_dims
gpu::GLInfo, 32
gl_max_viewports
gpu::GLInfo, 33
gl_min_map_buffer_alignment
gpu::GLInfo, 33
gl_min_program_texel_offset
gpu::GLInfo, 33
gl_minor_version
gpu::GLInfo, 33
gl_num_compressed_texture_formats
gpu::GLInfo, 33
gl_num_extensions
gpu::GLInfo, 33
gl_num_program_binary_formats
gpu::GLInfo, 33
gl_num_shader_binary_formats
gpu::GLInfo, 33
gl_pack_alignment
gpu::GLInfo, 34
gl_pack_image_height
gpu::GLInfo, 34
gl_pack_lsb_first
gpu::GLInfo, 34
gl_pack_row_length
gpu::GLInfo, 34
gl_pack_skip_images
gpu::GLInfo, 34
gl_pack_skip_pixels
gpu::GLInfo, 34
gl_pack_skip_rows
gpu::GLInfo, 34
gl_pack_swap_bytes
gpu::GLInfo, 34
gl_pixel_pack_buffer_binding
gpu::GLInfo, 35
gl_pixel_unpack_buffer_binding
gpu::GLInfo, 35
gl_point_fade_threshold_size
gpu::GLInfo, 35
gl_point_size
gpu::GLInfo, 35
gl_point_size_granularity
gpu::GLInfo, 35
gl_point_size_range
gpu::GLInfo, 35

gl_polygon_offset_factor
gpu::GLInfo, 35
gl_polygon_offset_fill
gpu::GLInfo, 35
gl_polygon_offset_line
gpu::GLInfo, 36
gl_polygon_offset_point
gpu::GLInfo, 36
gl_polygon_offset_units
gpu::GLInfo, 36
gl_polygon_smooth
gpu::GLInfo, 36
gl_polygon_smooth_hint
gpu::GLInfo, 36
gl_primitive_restart_index
gpu::GLInfo, 36
gl_program_binary_formats
gpu::GLInfo, 36
gl_program_pipeline_binding
gpu::GLInfo, 36
gl_program_point_size
gpu::GLInfo, 37
gl_provoking_vertex
gpu::GLInfo, 37
gl_read_buffer
gpu::GLInfo, 37
gl_read_framebuffer_binding
gpu::GLInfo, 37
gl_renderbuffer_binding
gpu::GLInfo, 37
gl_sample_buffers
gpu::GLInfo, 37
gl_sample_coverage_invert
gpu::GLInfo, 37
gl_sample_coverage_value
gpu::GLInfo, 37
gl_sampler_binding
gpu::GLInfo, 38
gl_samples
gpu::GLInfo, 38
gl_scissor_box
gpu::GLInfo, 38
gl_scissor_test
gpu::GLInfo, 38
gl_shader_compiler
gpu::GLInfo, 38
gl_shader_storage_buffer_binding
gpu::GLInfo, 38
gl_shader_storage_buffer_offset_alignment
gpu::GLInfo, 38
gl_shader_storage_buffer_size
gpu::GLInfo, 38
gl_shader_storage_buffer_start
gpu::GLInfo, 39
gl_smooth_line_width_granularity
gpu::GLInfo, 39
gl_smooth_line_width_range
gpu::GLInfo, 39
gl_stencil_back_fail
gpu::GLInfo, 39
gl_stencil_back_func
gpu::GLInfo, 39
gl_stencil_back_pass_depth_fail
gpu::GLInfo, 39
gl_stencil_back_pass_depth_pass
gpu::GLInfo, 39
gl_stencil_back_ref
gpu::GLInfo, 39
gl_stencil_back_value_mask
gpu::GLInfo, 40
gl_stencil_back_writemask
gpu::GLInfo, 40
gl_stencil_clear_value
gpu::GLInfo, 40
gl_stencil_fail
gpu::GLInfo, 40
gl_stencil_func
gpu::GLInfo, 40
gl_stencil_pass_depth_fail
gpu::GLInfo, 40
gl_stencil_pass_depth_pass
gpu::GLInfo, 40
gl_stencil_ref
gpu::GLInfo, 40
gl_stencil_test
gpu::GLInfo, 41
gl_stencil_value_mask
gpu::GLInfo, 41
gl_stencil_writemask
gpu::GLInfo, 41
gl_stereo
gpu::GLInfo, 41
gl_subpixel_bits
gpu::GLInfo, 41
gl_texture_binding_1d
gpu::GLInfo, 41
gl_texture_binding_1d_array
gpu::GLInfo, 41
gl_texture_binding_2d
gpu::GLInfo, 41
gl_texture_binding_2d_array
gpu::GLInfo, 42
gl_texture_binding_2d_multisample
gpu::GLInfo, 42
gl_texture_binding_2d_multisample_array
gpu::GLInfo, 42
gl_texture_binding_3d
gpu::GLInfo, 42
gl_texture_binding_buffer
gpu::GLInfo, 42
gl_texture_binding_cube_map
gpu::GLInfo, 42
gl_texture_binding_rectangle
gpu::GLInfo, 42
gl_texture_buffer_offset_alignment
gpu::GLInfo, 42

gl_texture_compression_hint
gpu::GLInfo, 43
gl_timestamp
gpu::GLInfo, 43
gl_transform_feedback_buffer_binding
gpu::GLInfo, 43
gl_transform_feedback_buffer_size
gpu::GLInfo, 43
gl_transform_feedback_buffer_start
gpu::GLInfo, 43
gl_uniform_buffer_binding
gpu::GLInfo, 43
gl_uniform_buffer_offset_alignment
gpu::GLInfo, 43
gl_uniform_buffer_size
gpu::GLInfo, 43
gl_uniform_buffer_start
gpu::GLInfo, 44
gl_unpack_alignment
gpu::GLInfo, 44
gl_unpack_image_height
gpu::GLInfo, 44
gl_unpack_lsb_first
gpu::GLInfo, 44
gl_unpack_row_length
gpu::GLInfo, 44
gl_unpack_skip_images
gpu::GLInfo, 44
gl_unpack_skip_pixels
gpu::GLInfo, 44
gl_unpack_skip_rows
gpu::GLInfo, 44
gl_unpack_swap_bytes
gpu::GLInfo, 45
gl_vertex_array_binding
gpu::GLInfo, 45
gl_vertex_binding_divisor
gpu::GLInfo, 45
gl_vertex_binding_offset
gpu::GLInfo, 45
gl_vertex_binding_stride
gpu::GLInfo, 45
gl_viewport
gpu::GLInfo, 45
gl_viewport_bounds_range
gpu::GLInfo, 45
gl_viewport_index_provoking_vertex
gpu::GLInfo, 45
gl_viewport_subpixel_bits
gpu::GLInfo, 46
glInfo
gpu::Profiler, 59
glwidget.cpp
QT_APPLICATION, 78
gpu, 9
gpu::GLInfo, 14
gl_active_texture, 18
gl_aliased_line_width_range, 18
gl_array_buffer_binding, 18
gl_blend, 18
gl_blend_color, 18
gl_blend_dst_alpha, 18
gl_blend_dst_rgb, 19
gl_blend_equation_alpha, 19
gl_blend_equation_rgb, 19
gl_blend_src_alpha, 19
gl_blend_src_rgb, 19
gl_color_clear_value, 19
gl_color_logic_op, 19
gl_color_writemask, 19
gl_compressed_texture_formats, 20
gl_context_flags, 20
gl_cull_face, 20
gl_cull_face_mode, 20
gl_current_program, 20
gl_debug_group_stack_depth, 20
gl_depth_clear_value, 20
gl_depth_func, 20
gl_depth_range, 21
gl_depth_test, 21
gl_depth_writemask, 21
gl_dispatch_indirect_buffer_binding, 21
gl_dither, 21
gl_doublebuffer, 21
gl_draw_buffer, 21
gl_draw_framebuffer_binding, 21
gl_element_array_buffer_binding, 22
gl_fragment_shader_derivative_hint, 22
gl_implementation_color_read_format, 22
gl_implementation_color_read_type, 22
gl_layer_provoking_vertex, 22
gl_line_smooth, 22
gl_line_smooth_hint, 22
gl_line_width, 22
gl_logic_op_mode, 23
gl_major_version, 23
gl_max_3d_texture_size, 23
gl_max_array_texture_layers, 23
gl_max_clip_distances, 23
gl_max_color_texture_samples, 23
gl_max_combined_atomic_counters, 23
gl_max_combined_compute_uniform_components, 23
gl_max_combined_fragment_uniform_components, 24
gl_max_combined_geometry_uniform_components, 24
gl_max_combined_shader_storage_blocks, 24
gl_max_combined_texture_image_units, 24
gl_max_combined_uniform_blocks, 24
gl_max_combined_vertex_uniform_components, 24
gl_max_compute_atomic_counter_buffers, 24
gl_max_compute_atomic_counters, 24
gl_max_compute_shader_storage_blocks, 25
gl_max_compute_texture_image_units, 25

gl_max_compute_uniform_blocks, 25
gl_max_compute_uniform_components, 25
gl_max_compute_work_group_count, 25
gl_max_compute_work_group_size, 25
gl_max_cube_map_texture_size, 25
gl_max_debug_group_stack_depth, 25
gl_max_depth_texture_samples, 26
gl_max_draw_buffers, 26
gl_max_dual_source_draw_buffers, 26
gl_max_element_index, 26
gl_max_elements_indices, 26
gl_max_elements_vertices, 26
gl_max_fragment_atomic_counters, 26
gl_max_fragment_input_components, 26
gl_max_fragment_shader_storage_blocks, 27
gl_max_fragment_uniform_blocks, 27
gl_max_fragment_uniform_components, 27
gl_max_fragment_uniform_vectors, 27
gl_max_framebuffer_height, 27
gl_max_framebuffer_layers, 27
gl_max_framebuffer_samples, 27
gl_max_framebuffer_width, 27
gl_max_geometry_atomic_counters, 28
gl_max_geometry_input_components, 28
gl_max_geometry_output_components, 28
gl_max_geometry_shader_storage_blocks, 28
gl_max_geometry_texture_image_units, 28
gl_max_geometry_uniform_blocks, 28
gl_max_geometry_uniform_components, 28
gl_max_integer_samples, 28
gl_max_label_length, 29
gl_max_program_texel_offset, 29
gl_max_rectangle_texture_size, 29
gl_max_renderbuffer_size, 29
gl_max_sample_mask_words, 29
gl_max_server_wait_timeout, 29
gl_max_shader_storage_buffer_bindings, 29
gl_max_tess_control_atomic_counters, 29
gl_max_tess_control_shader_storage_blocks, 30
gl_max_tess_evaluation_atomic_counters, 30
gl_max_tess_evaluation_shader_storage_blocks, 30
gl_max_texture_buffer_size, 30
gl_max_texture_image_units, 30
gl_max_texture_lod_bias, 30
gl_max_texture_size, 30
gl_max_uniform_block_size, 30
gl_max_uniform_buffer_bindings, 31
gl_max_uniform_locations, 31
gl_max_varying_components, 31
gl_max_varying_floats, 31
gl_max_varying_vectors, 31
gl_max_vertex_atomic_counters, 31
gl_max_vertex_attrib_bindings, 31
gl_max_vertex_attrib_relative_offset, 31
gl_max_vertex_attribs, 32
gl_max_vertex_output_components, 32
gl_max_vertex_shader_storage_blocks, 32
gl_max_vertex_texture_image_units, 32
gl_max_vertex_uniform_blocks, 32
gl_max_vertex_uniform_components, 32
gl_max_vertex_uniform_vectors, 32
gl_max_viewport_dims, 32
gl_max_viewports, 33
gl_min_map_buffer_alignment, 33
gl_min_program_texel_offset, 33
gl_minor_version, 33
gl_num_compressed_texture_formats, 33
gl_num_extensions, 33
gl_num_program_binary_formats, 33
gl_num_shader_binary_formats, 33
gl_pack_alignment, 34
gl_pack_image_height, 34
gl_pack_lsb_first, 34
gl_pack_row_length, 34
gl_pack_skip_images, 34
gl_pack_skip_pixels, 34
gl_pack_skip_rows, 34
gl_pack_swap_bytes, 34
gl_pixel_pack_buffer_binding, 35
gl_pixel_unpack_buffer_binding, 35
gl_point_fade_threshold_size, 35
gl_point_size, 35
gl_point_size_granularity, 35
gl_point_size_range, 35
gl_polygon_offset_factor, 35
gl_polygon_offset_fill, 35
gl_polygon_offset_line, 36
gl_polygon_offset_point, 36
gl_polygon_offset_units, 36
gl_polygon_smooth, 36
gl_polygon_smooth_hint, 36
gl_primitive_restart_index, 36
gl_program_binary_formats, 36
gl_program_pipeline_binding, 36
gl_program_point_size, 37
gl_provoking_vertex, 37
gl_read_buffer, 37
gl_read_framebuffer_binding, 37
gl_renderbuffer_binding, 37
gl_sample_buffers, 37
gl_sample_coverage_invert, 37
gl_sample_coverage_value, 37
gl_sampler_binding, 38
gl_samples, 38
gl_scissor_box, 38
gl_scissor_test, 38
gl_shader_compiler, 38
gl_shader_storage_buffer_binding, 38
gl_shader_storage_buffer_offset_alignment, 38
gl_shader_storage_buffer_size, 38
gl_shader_storage_buffer_start, 39
gl_smooth_line_width_granularity, 39
gl_smooth_line_width_range, 39
gl_stencil_back_fail, 39
gl_stencil_back_func, 39

gl_stencil_back_pass_depth_fail, 39
gl_stencil_back_pass_depth_pass, 39
gl_stencil_back_ref, 39
gl_stencil_back_value_mask, 40
gl_stencil_back_writemask, 40
gl_stencil_clear_value, 40
gl_stencil_fail, 40
gl_stencil_func, 40
gl_stencil_pass_depth_fail, 40
gl_stencil_pass_depth_pass, 40
gl_stencil_ref, 40
gl_stencil_test, 41
gl_stencil_value_mask, 41
gl_stencil_writemask, 41
gl_stereo, 41
gl_subpixel_bits, 41
gl_texture_binding_1d, 41
gl_texture_binding_1d_array, 41
gl_texture_binding_2d, 41
gl_texture_binding_2d_array, 42
gl_texture_binding_2d_multisample, 42
gl_texture_binding_2d_multisample_array, 42
gl_texture_binding_3d, 42
gl_texture_binding_buffer, 42
gl_texture_binding_cube_map, 42
gl_texture_binding_rectangle, 42
gl_texture_buffer_offset_alignment, 42
gl_texture_compression_hint, 43
gl_timestamp, 43
gl_transform_feedback_buffer_binding, 43
gl_transform_feedback_buffer_size, 43
gl_transform_feedback_buffer_start, 43
gl_uniform_buffer_binding, 43
gl_uniform_buffer_offset_alignment, 43
gl_uniform_buffer_size, 43
gl_uniform_buffer_start, 44
gl_unpack_alignment, 44
gl_unpack_image_height, 44
gl_unpack_lsb_first, 44
gl_unpack_row_length, 44
gl_unpack_skip_images, 44
gl_unpack_skip_pixels, 44
gl_unpack_skip_rows, 44
gl_unpack_swap_bytes, 45
gl_vertex_array_binding, 45
gl_vertex_binding_divisor, 45
gl_vertex_binding_offset, 45
gl_vertex_binding_stride, 45
gl_viewport, 45
gl_viewport_bounds_range, 45
gl_viewport_index_provoking_vertex, 45
gl_viewport_subpixel_bits, 46
gpu::Profiler, 56
~Profiler, 58
addTrianglesEntry, 58
glInfo, 59
Profiler, 58
setGLExtensions, 58
setGLShadingLanguageVersion, 58
setGLVersion, 58
setRenderer, 59
setVendor, 59
TYPE, 57

indices
Model, 52
initializeGL
GLWidget, 47
isLoaded
obj::OBJ, 55

libs/math-library/src/MathLibrary.hpp, 75
libs/math-library/src/Vector2.hpp, 75
libs/math-library/src/Vector3.hpp, 75
libs/obj-loader/src/Face.hpp, 76
libs/obj-loader/src/OBJ.cpp, 76
libs/obj-loader/src/OBJ.h, 76
libs/profiler/src/GLInfo.hpp, 76
libs/profiler/src/Profiler.cpp, 77
libs/profiler/src/Profiler.h, 77
libs/triangulate/src/Main.cpp, 80
libs/triangulate/src/Triangulate.hpp, 77
libs/triangulate/src/main.cpp
main, 80
loadModel
obj::OBJ, 55

m_object
Model, 52
m_program
Model, 52
m_vertex
Model, 52
magnitude
math::Vector2, 62
math::Vector3, 69
magnitudeSquared
math::Vector2, 62
math::Vector3, 69
main
libs/triangulate/src/main.cpp, 80
src/main.cpp, 79
math, 9
math::Vector2, 59
~Vector2, 61
dot, 61
magnitude, 62
magnitudeSquared, 62
normal, 62
normalise, 62
operator∗, 62
operator∗=, 63
operator+, 63
operator+=, 63
operator-, 64
operator-=, 64
operator/, 64

operator/=, 65
operator=, 65
operator==, 65
Vector2, 61
x, 66
y, 66
math::Vector3, 66
~Vector3, 68
cross, 68
dot, 68
magnitude, 69
magnitudeSquared, 69
normal, 69
normalise, 69
operator*, 69
operator*=, 70
operator+, 70
operator+=, 70
operator-, 71
operator-=, 71
operator/, 71
operator/=, 72
operator=, 72
operator==, 72
Vector3, 67
x, 73
y, 73
z, 73
Model, 50
~Model, 51
indices, 52
m_object, 52
m_program, 52
m_vertex, 52
Model, 51
obj, 52
setup, 51
texture, 52
uvsBuffer, 52

n0
obj::Face, 12
n1
obj::Face, 12
n2
obj::Face, 12
normal
math::Vector2, 62
math::Vector3, 69
normalise
math::Vector2, 62
math::Vector3, 69

OBJ
obj::OBJ, 53
obj, 9
Model, 52
triangulate, 10
obj::Face, 11
Face, 11, 12
n0, 12
n1, 12
n2, 12
tc0, 13
tc1, 13
tc2, 13
v0, 13
v1, 13
v2, 13
obj::OBJ, 53
~OBJ, 54
addVertex, 54
getFaces, 54
getIndices, 54
getNormals, 55
getUVs, 55
getVertices, 55
isLoaded, 55
loadModel, 55
OBJ, 53
updateFaces, 56
operator*
math::Vector2, 62
math::Vector3, 69
operator*=
math::Vector2, 63
math::Vector3, 70
operator+
math::Vector2, 63
math::Vector3, 70
operator+=
math::Vector2, 63
math::Vector3, 70
operator-
math::Vector2, 64
math::Vector3, 71
operator-=
math::Vector2, 64
math::Vector3, 71
operator/
math::Vector2, 64
math::Vector3, 71
operator/=
math::Vector2, 65
math::Vector3, 72
operator=
math::Vector2, 65
math::Vector3, 72
operator==
math::Vector2, 65
math::Vector3, 72

paintGL
GLWidget, 47
Profiler
gpu::Profiler, 58

QT_APPLICATION

glwidget.cpp, 78

resizeGL
GLWidget, 47

setGLExtensions
gpu::Profiler, 58
setGLShadingLanguageVersion
gpu::Profiler, 58
setGLVersion
gpu::Profiler, 58
setProfiler
GLWidget, 48
GLWindow, 50
setRenderer
gpu::Profiler, 59
setScene
GLWidget, 48
setVendor
gpu::Profiler, 59
setup
Model, 51
src/getgpuinfo.cpp, 77
src/glwidget.cpp, 78
src/glwidget.h, 78
src/glwindow.cpp, 79
src/glwindow.h, 79
src/main.cpp, 79
main, 79
src/model.hpp, 80

TYPE
gpu::Profiler, 57
tc0
obj::Face, 13
tc1
obj::Face, 13
tc2
obj::Face, 13
texture
Model, 52
triangulate
obj, 10

Ui, 10
updateFaces
obj::OBJ, 56
uvsBuffer
Model, 52

v0
obj::Face, 13
v1
obj::Face, 13
v2
obj::Face, 13
Vector2
math::Vector2, 61
Vector3
math::Vector3, 67

x
math::Vector2, 66
math::Vector3, 73

y
math::Vector2, 66
math::Vector3, 73

z
math::Vector3, 73