vengine

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Chapter 1

Hierarchical Index

1.1 Class Hierarchy

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

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Chapter 2

Class Index

2.1 Class List

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Chapter 3

Class Documentation

3.1 ven::Model::Builder Struct Reference

Public Member Functions

- void **loadModel** (const std::string &filename)

Public Attributes

- std::vector< Vertex > **vertices** {}
- std::vector< uint32_t > **indices** {}

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

- include/VEngine/Model.hpp

3.2 ven::Camera Class Reference

Public Member Functions

- void **setOrthographicProjection** (float left, float right, float top, float bottom, float near, float far)
- void **setPerspectiveProjection** (float fovy, float aspect, float near, float far)
- void **setViewDirection** (glm::vec3 position, glm::vec3 direction, glm::vec3 up=glm::vec3{0.F, -1.F, 0.F})
- void **setViewTarget** (glm::vec3 position, glm::vec3 target, glm::vec3 up=glm::vec3{0.F, -1.F, 0.F})
- void **setViewYXZ** (glm::vec3 position, glm::vec3 rotation)
- const glm::mat4 & **getProjection** () const
- const glm::mat4 & **getView** () const

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

- include/VEngine/Camera.hpp

3.3 myLib::Clock Class Reference

Public Member Functions

- void **restart** ()
- void **pause** ()
- void **resume** ()
- Time **getElapsedTime** () const

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

- lib/static/myLib/include/myLib/Clock/Clock.hpp

3.4 ven::Device Class Reference

Public Member Functions

- **Device** (ven::Window &window)
- **Device** (const Device &)=delete
- Device & **operator=** (const Device &)=delete
- **Device** (Device &&)=delete
- Device & **operator=** (Device &&)=delete
- VkCommandPool **getCommandPool** ()
- VkDevice **device** ()
- VkSurfaceKHR **surface** ()
- VkQueue **graphicsQueue** ()
- VkQueue **presentQueue** ()
- SwapChainSupportDetails **getSwapChainSupport** ()
- uint32_t **findMemoryType** (uint32_t typeFilter, VkMemoryPropertyFlags properties)
- QueueFamilyIndices **findPhysicalQueueFamilies** ()
- VkFormat **findSupportedFormat** (const std::vector< VkFormat > &candidates, VkImageTiling tiling, VkFormatFeatureFlags features)
- void **createBuffer** (VkDeviceSize size, VkBufferUsageFlags usage, VkMemoryPropertyFlags properties, VkBuffer &buffer, VkDeviceMemory &bufferMemory)
- VkCommandBuffer **beginSingleTimeCommands** ()
- void **endSingleTimeCommands** (VkCommandBuffer commandBuffer)
- void **copyBuffer** (VkBuffer srcBuffer, VkBuffer dstBuffer, VkDeviceSize size)
- void **copyBufferToImage** (VkBuffer buffer, VkImage image, uint32_t width, uint32_t height, uint32_t layerCount)
- void **createImageWithInfo** (const VkImageCreateInfo &imageInfo, VkMemoryPropertyFlags properties, VkImage &image, VkDeviceMemory &imageMemory)

Public Attributes

- const bool **enableValidationLayers** = true
- VkPhysicalDeviceProperties **m_properties**

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

- include/VEngine/Device.hpp

3.5 ven::Engine Class Reference

Public Member Functions

- **Engine** (uint32_t=DEFAULT_WIDTH, uint32_t=DEFAULT_HEIGHT, const std::string &title=DEFAULT_↩ TITLE.data())
- **Engine** (const Engine &)=delete
- Engine **operator=** (const Engine &)=delete
- Window & **getWindow** ()
- void **mainLoop** ()

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

- include/VEngine/Engine.hpp

3.6 ven::KeyboardController Class Reference

Classes

- struct KeyMappings

Public Member Functions

- void **moveInPlaneXZ** (GLFWwindow ∗window, float dt, Object &object) const

Public Attributes

- KeyMappings **m_keys** {}
- float **m_moveSpeed** {3.F}
- float **m_lookSpeed** {1.5F}

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

- include/VEngine/KeyboardController.hpp

3.7 ven::KeyboardController::KeyMappings Struct Reference

Public Attributes

- int **moveLeft** = GLFW_KEY_A
- int **moveRight** = GLFW_KEY_D
- int **moveForward** = GLFW_KEY_W
- int **moveBackward** = GLFW_KEY_S
- int **moveUp** = GLFW_KEY_SPACE
- int **moveDown** = GLFW_KEY_LEFT_SHIFT
- int **lookLeft** = GLFW_KEY_LEFT
- int **lookRight** = GLFW_KEY_RIGHT
- int **lookUp** = GLFW_KEY_UP
- int **lookDown** = GLFW_KEY_DOWN

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

- include/VEngine/KeyboardController.hpp

3.8 ven::Model Class Reference

Classes

- struct Builder
- struct Vertex

Public Member Functions

- **Model** (Device &device, const Model::Builder &builder)
- **Model** (const Model &)=delete
- void **operator=** (const Model &)=delete
- void **bind** (VkCommandBuffer commandBuffer)
- void **draw** (VkCommandBuffer commandBuffer) const

Static Public Member Functions

- static std::unique_ptr< Model > **createModelFromFile** (Device &device, const std::string &filename)

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

- include/VEngine/Model.hpp

3.9 ven::Object Class Reference

Public Member Functions

- **Object** (const Object &)=delete
- Object & **operator=** (const Object &)=delete
- **Object** (Object &&)=default
- Object & **operator=** (Object &&)=default
- id_t **getId** () const

Static Public Member Functions

- static Object **createObject** ()

Public Attributes

- std::shared_ptr< ven::Model > **model** {}
- glm::vec3 **color** {}
- Transform3DComponent **transform3D** {}

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

- include/VEngine/Object.hpp

3.10 ven::PipelineConfigInfo Struct Reference

Public Member Functions

- **PipelineConfigInfo** (const PipelineConfigInfo &)=delete
- PipelineConfigInfo & **operator=** (const PipelineConfigInfo &)=delete

Public Attributes

- VkPipelineInputAssemblyStateCreateInfo **inputAssemblyInfo** {}
- VkPipelineRasterizationStateCreateInfo **rasterizationInfo** {}
- VkPipelineMultisampleStateCreateInfo **multisampleInfo** {}
- VkPipelineColorBlendAttachmentState **colorBlendAttachment** {}
- VkPipelineColorBlendStateCreateInfo **colorBlendInfo** {}
- VkPipelineDepthStencilStateCreateInfo **depthStencilInfo** {}
- std::vector< VkDynamicState > **dynamicStateEnables**
- VkPipelineDynamicStateCreateInfo **dynamicStateInfo** {}
- VkPipelineLayout **pipelineLayout** = nullptr
- VkRenderPass **renderPass** = nullptr
- uint32_t **subpass** = 0

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

- include/VEngine/Shaders.hpp

3.11 gui::PluginLoader Class Reference

Classes

- class PluginLoaderException

Public Types

- using **PluginCreator** = std::unique_ptr< IPlugin >(*)()

Public Member Functions

- template<typename T >
  std::unique_ptr< T > **getPlugin** (const std::string &pluginName)
- void **closePlugins** ()

Static Public Member Functions

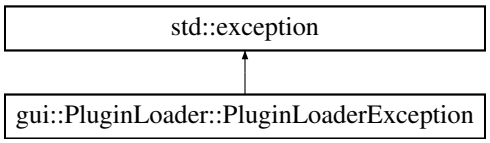
- static PluginLoader & **getInstance** ()

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

- include/VEngine/PluginLoader.hpp

3.12 gui::PluginLoader::PluginLoaderException Class Reference

Inheritance diagram for gui::PluginLoader::PluginLoaderException:



Public Member Functions

- **PluginLoaderException** (std::string msg)
- const char ∗ **what** () const noexcept override

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

- include/VEngine/PluginLoader.hpp

3.13 ven::QueueFamilyIndices Struct Reference

Public Member Functions

- bool **isComplete** () const

Public Attributes

- uint32_t **graphicsFamily** {}
- uint32_t **presentFamily** {}
- bool **graphicsFamilyHasValue** = false
- bool **presentFamilyHasValue** = false

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

- include/VEngine/Device.hpp

3.14 myLib::Random Class Reference

Static Public Member Functions

- static int **randomInt** (int min, int max)
- static int **randomInt** ()
- static float **randomFloat** (float min, float max)
- static float **randomFloat** ()

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

- lib/static/myLib/include/myLib/Random.hpp

3.15 ven::Renderer Class Reference

Public Member Functions

- **Renderer** (Window &window, Device &device)
- **Renderer** (const Renderer &)=delete
- Renderer & **operator=** (const Renderer &)=delete
- VkRenderPass **getSwapChainRenderPass** () const
- float **getAspectRatio** () const
- bool **isFrameInProgress** () const
- VkCommandBuffer **getCurrentCommandBuffer** () const
- int **getFrameIndex** () const
- VkCommandBuffer **beginFrame** ()
- void **endFrame** ()
- void **beginSwapChainRenderPass** (VkCommandBuffer commandBuffer)

Static Public Member Functions

- static void **endSwapChainRenderPass** (VkCommandBuffer commandBuffer)

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

- include/VEngine/Renderer.hpp

3.16 ven::RenderSystem Class Reference

Public Member Functions

- **RenderSystem** (Device &device, VkRenderPass renderPass)
- **RenderSystem** (const RenderSystem &)=delete
- RenderSystem & **operator=** (const RenderSystem &)=delete
- void **renderObjects** (VkCommandBuffer commandBuffer, std::vector< ven::Object > &objects, const Camera &camera)

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

- include/VEngine/RenderSystem.hpp

3.17 ven::Shaders Class Reference

Public Member Functions

- **Shaders** (Device &device, const std::string &vertFilepath, const std::string &fragFilepath, const PipelineConfigInfo &configInfo)
- **Shaders** (const Shaders &)=delete
- Shaders & **operator=** (const Shaders &)=delete
- void **bind** (VkCommandBuffer commandBuffer)

Static Public Member Functions

- static void **defaultPipelineConfigInfo** (PipelineConfigInfo &configInfo)

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

- include/VEngine/Shaders.hpp

3.18 ven::SimplePushConstantData Struct Reference

Public Attributes

- glm::mat4 **transform** {1.F}
- glm::vec3 **color**

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

- include/VEngine/RenderSystem.hpp

3.19 ven::SwapChain Class Reference

Public Member Functions

- **SwapChain** (Device &deviceRef, VkExtent2D windowExtent)
- **SwapChain** (Device &deviceRef, VkExtent2D windowExtent, std::shared_ptr< SwapChain > previous)
- **SwapChain** (const SwapChain &)=delete
- SwapChain & **operator=** (const SwapChain &)=delete
- VkFramebuffer **getFrameBuffer** (unsigned long index)
- VkRenderPass **getRenderPass** ()
- VkImageView **getImageView** (int index)
- size_t **imageCount** ()
- VkFormat **getSwapChainImageFormat** ()
- VkExtent2D **getSwapChainExtent** ()
- uint32_t **width** () const
- uint32_t **height** () const
- float **extentAspectRatio** () const
- VkFormat **findDepthFormat** ()
- VkResult **acquireNextImage** (uint32_t *imageIndex)
- VkResult **submitCommandBuffers** (const VkCommandBuffer *buffers, const uint32_t *imageIndex)
- bool **compareSwapFormats** (const SwapChain &swapChainp) const

Static Public Attributes

- static constexpr int **MAX_FRAMES_IN_FLIGHT** = 2

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

- include/VEngine/SwapChain.hpp

3.20 ven::SwapChainSupportDetails Struct Reference

Public Attributes

- VkSurfaceCapabilitiesKHR **capabilities**
- std::vector< VkSurfaceFormatKHR > **formats**
- std::vector< VkPresentModeKHR > **presentModes**

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

- include/VEngine/Device.hpp

3.21 myLib::Time Class Reference

Public Member Functions

- **Time** (const double seconds)
- int **asSeconds** () const
- int **asMilliseconds** () const
- int **asMicroseconds** () const

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

- lib/static/myLib/include/myLib/Clock/Time.hpp

3.22 ven::Transform3DComponent Struct Reference

Public Member Functions

- glm::mat4 **mat4** () const

Public Attributes

- glm::vec3 **translation** {}
- glm::vec3 **scale** {1.F, 1.F, 1.F}
- glm::vec3 **rotation** {}

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

- include/VEngine/Object.hpp

3.23 ven::Model::Vertex Struct Reference

Public Member Functions

- bool **operator==** (const Vertex &other) const

Static Public Member Functions

- static std::vector< VkVertexInputBindingDescription > **getBindingDescriptions** ()
- static std::vector< VkVertexInputAttributeDescription > **getAttributeDescriptions** ()

Public Attributes

- glm::vec3 **position** {}
- glm::vec3 **color** {}
- glm::vec3 **normal** {}
- glm::vec2 **uv** {}

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

- include/VEngine/Model.hpp

3.24 ven::Window Class Reference

Public Member Functions

- **Window** (const uint32_t width, const uint32_t height, const std::string &title)
- GLFWwindow * **createWindow** (uint32_t width, uint32_t height, const std::string &title)
- void **createWindowSurface** (VkInstance instance, VkSurfaceKHR *surface)
- GLFWwindow * **getGLFWindow** () const
- VkExtent2D **getExtent** () const
- bool **wasWindowResized** () const
- void **resetWindowResizedFlag** ()

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

- include/VEngine/Window.hpp

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