## VRE::VRE\_Window

- int mWidth
- int mHeight
- bool mFrameBufferResized
- const std::string mWindowName
- GLFWwindow \* mWindow + VRE\_Window(int width,
- int height, std::string name)
- + ~VRE\_Window()
- + VRE\_Window(const VRE \_Window &)=delete + VRE\_Window & operator
  - =(const VRE\_Window &) =delete
  - + bool ShouldClose() + void CreateWindowSurface
- (VkInstance instance, VkSurface KHR \*surface)
- + VkExtent2D GetExtent()
- + bool HasWindowResized()
- + void ResetWindowResizedFlag() + GLFWwindow \* GetGLFWwindow
- () const void Init()
- static void FrameBufferResized
- Callback(GLFWwindow \*window, int width, int height)

VRE::VRE\_Device

-mWindow

## + const bool mEnableValidation

- Layers + VkPhysicalDeviceProperties **mProperties**
- VkInstance mInstance VkDebugUtilsMessengerEXT

VkPhysicalDevice mPhysical

mDebugMessenger

Device

- VkCommandPool mCommandPool VkDevice mVkDevice
- VkSurfaceKHR mVkSurface
- VkQueue mGraphicsQueue
- VkQueue mPresentQueue
- const std::vector
- const char \* > mValidation Layers

const std::vector

- const char \* > mDeviceExtensions + VRE\_Device(VRE\_Window &window)
- + ~VRE Device()
- + VRE\_Device(const VRE Device &)=delete
- + VRE\_Device & operator
- =(const VRE\_Device &) =delete
- &&)=delete + VRE\_Device & operator =(VRE\_Device &&)=delete

+ VRE\_Device(VRE\_Device

- + VkCommandPool GetCommand Pool() + VkDevice GetVkDevice()
- + VkPhysicalDevice GetPhysical Device()
- + VkSurfaceKHR Surface() and 12 more...
- void CreateInstance() void SetupDebugMessenger()
- void CreateSurface()
- void PickPhysicalDevice() void CreateLogicalDevice()
  - void CreateCommandPool() bool IsDeviceSuitable (VkPhysicalDevice device)
- char \* > GetRequiredExtensions() bool CheckValidationLayer

std::vector< const

- Support() QueueFamilyIndices
- FindQueueFamilies(VkPhysical Device device)
- void PopulateDebugMessenger CreateInfo(VkDebugUtilsMessenger CreateInfoEXT &createInfo)
- Extensions() bool CheckDeviceExtension Support(VkPhysicalDevice

void HasGflwRequiredInstance

- device) SwapChainSupportDetails QuerySwapChainSupport (VkPhysicalDevice device)
- -mDevice

VRE::VRE DescriptorPool ::Builder

std::vector< VkDescriptor PoolSize > mPoolSizeList

- uint32\_t mMaxSets
- VkDescriptorPoolCreateFlags mPoolFlags
  - + Builder(VRE\_Device &device) + Builder & AddPoolSize
  - (VkDescriptorType descriptor Type, uint32\_t count) + Builder & SetPoolFlags
  - (VkDescriptorPoolCreateFlags flags) + Builder & SetMaxSets
  - + std::unique ptr< VRE DescriptorPool > Build () const

(uint32\_t max)