Excellent Vulkan Examples

From Sascha Willems

Lina Liu Nov. 20 2022

Vulkan C++ Examples and Demos

Vulkan- The new generation graphics and compute API from Khronos

1. Contents
    1. Shaders
    2. Examples
        1. Basics
        2. glTF
        3. Advanced
        4. Performance
        5. Physically Based Rendering
        6. Deferred
        7. Compute Shader
        8. Geometry Shader
        9. Tessellation Shader
        10. Hardware accelerated ray tracing
        11. Headless
        12. User Interface
        13. Effects
        14. Extensions
        15. Misc

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Shaders

1. How Vulkan use Shaders?
    1. Vulkan comsumes shaders in an intermediate representation called SPIR-V
        1. What is intermediate representation?
            1. Is a bytecode format as opposed to human-readable syntax like GLSL and HLSL.
            2. The bytecode format is called SPIR-V
            3. The bytecode format is a format that can used to write graphics and compute shaders
    2. Why use the bytecode format called SPIR-V?
        1. The compilers written by GPU vendors to turn shader code into native code are significantly less complex.
        2. If you use human-readable syntax like GLSL, some GPU vendors may rejecting your code due to syntax errors, even may compiler bugs, use SPIR-V can avoided such errors.

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Shaders

1. How Vulkan use Shaders?
    3. How we write bytecode format shader?
        1. We don’t need to write the bytecode format by hand, Khronos released a compiler can compiles GLSL to SPIR-V.
        2. You can include this compiler as a library to produce SPIR-V at runtime.
        3. We can use compiler like glslangValidator.exe
        4. We can use compiler like glslc.exe
            1. What is good for using glslc?
                1. Glslc uses the same parameter format as well-known compilers like GCC and Clang and includes some extra functionality like includes.
        5. glslangValidator.exe and glslc.exe are included in Vulkan SDK.

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A note on synchronization

1. Why is Synchronization important?
    1. Vulkan is explicitly parallel and built for multithreading.
    2. Vulkan can render scenes with maximum efficiency and minimal wait time.
    3. The key is making sure that any parallel tasks wait only when they need to, and only for as long as necessary.