



Native code in web development stack

PART 1

Taxonomy

Front-end

- ▶ WebGL, WebGL
- ▶ Emscripten, Binaryen, WebAssembly – not strictly native code

Back-end

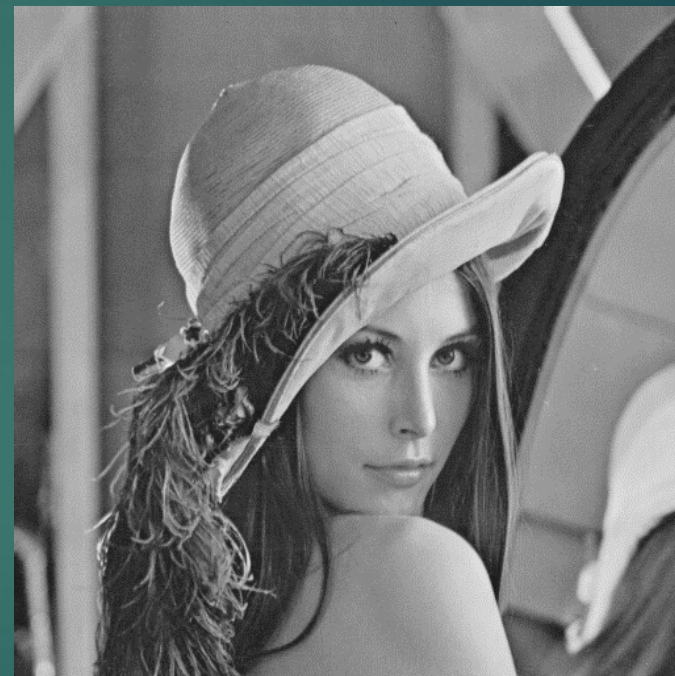
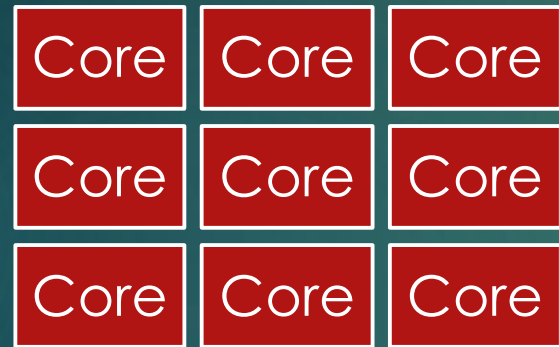
- ▶ Entire application
- ▶ Native extensions for scripting languages



Front-end

GPU

WebGL



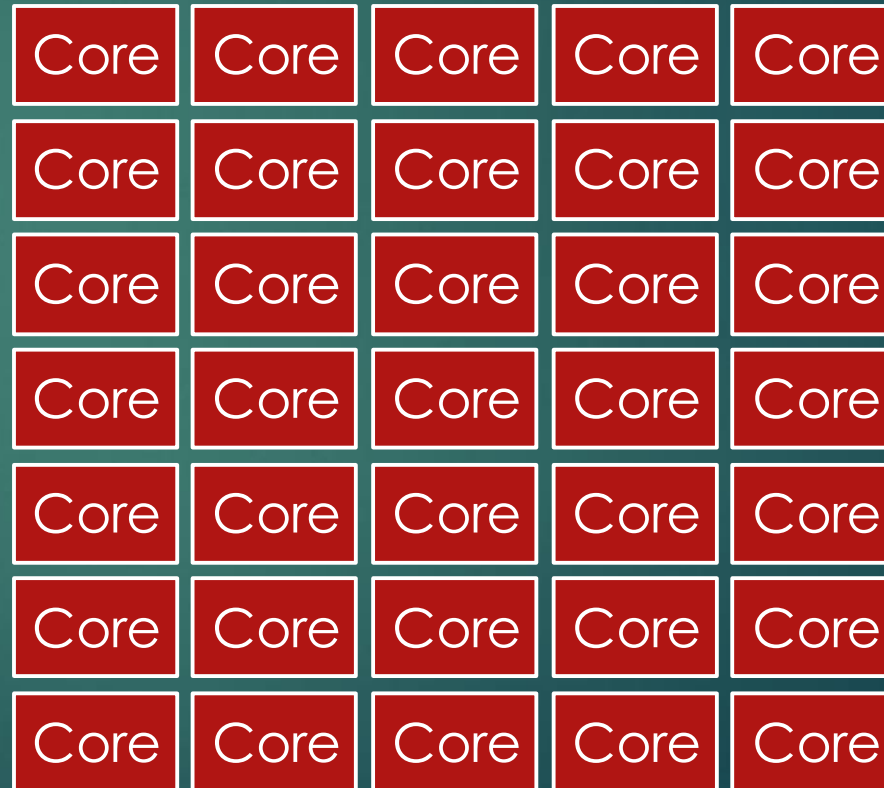
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GPU vs CPU

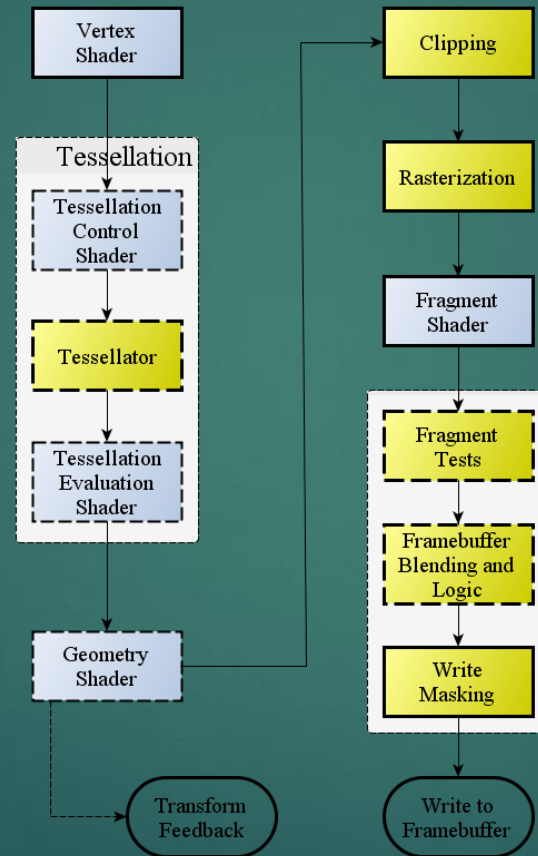
CPU



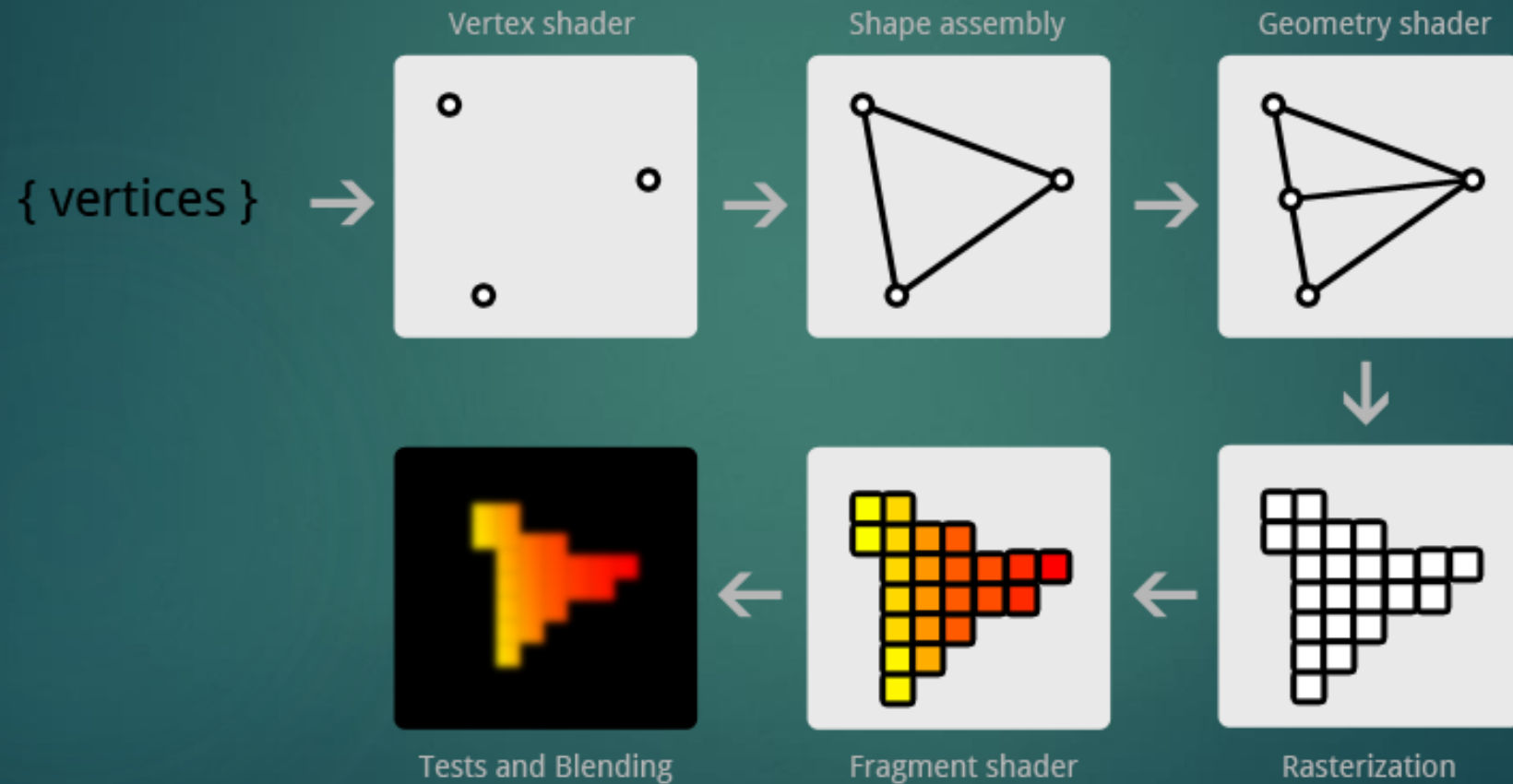
GPU



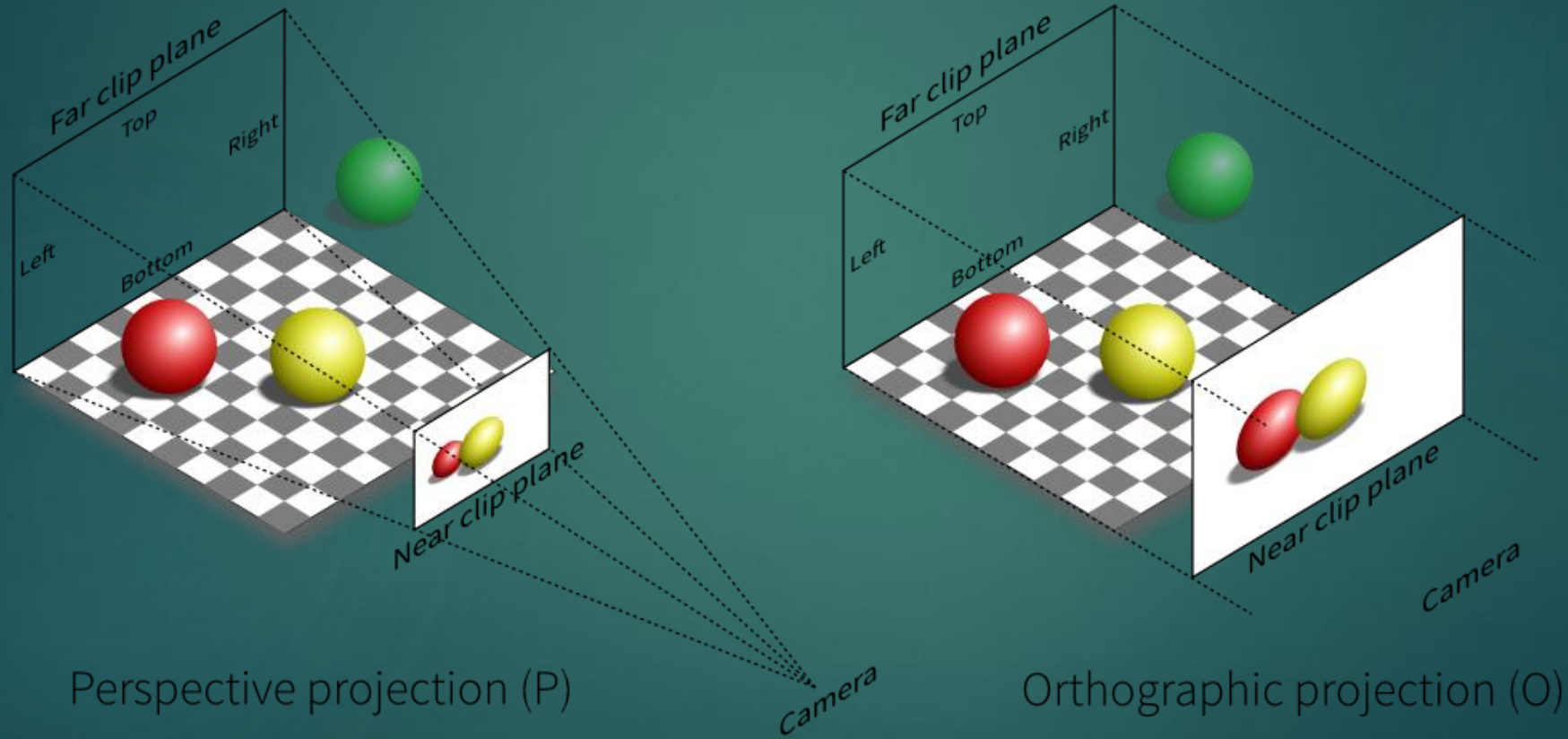
Rendering pipeline



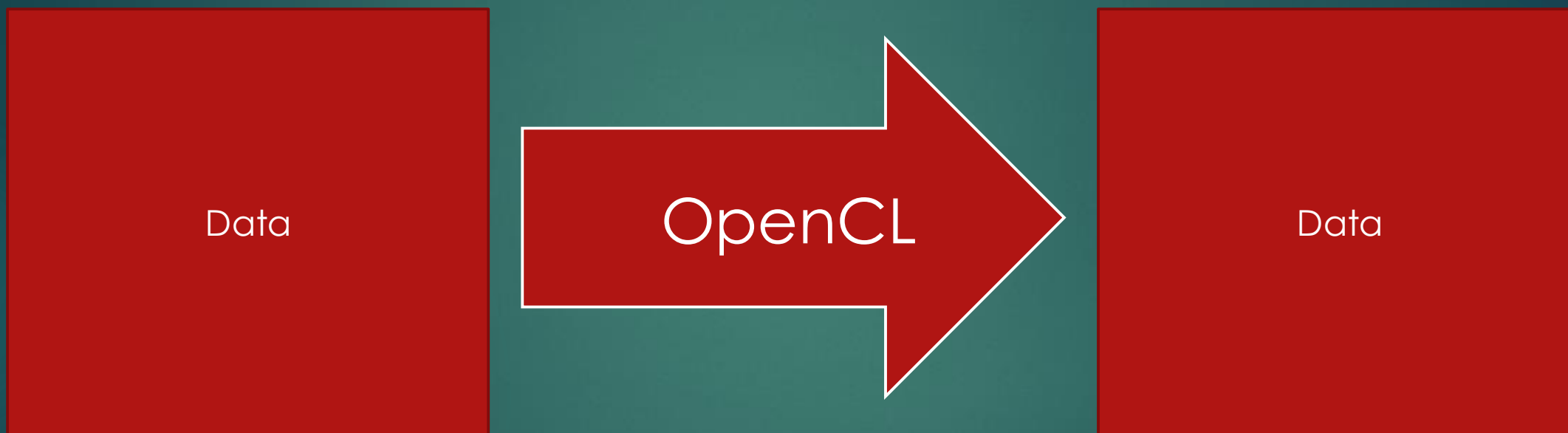
Shaders



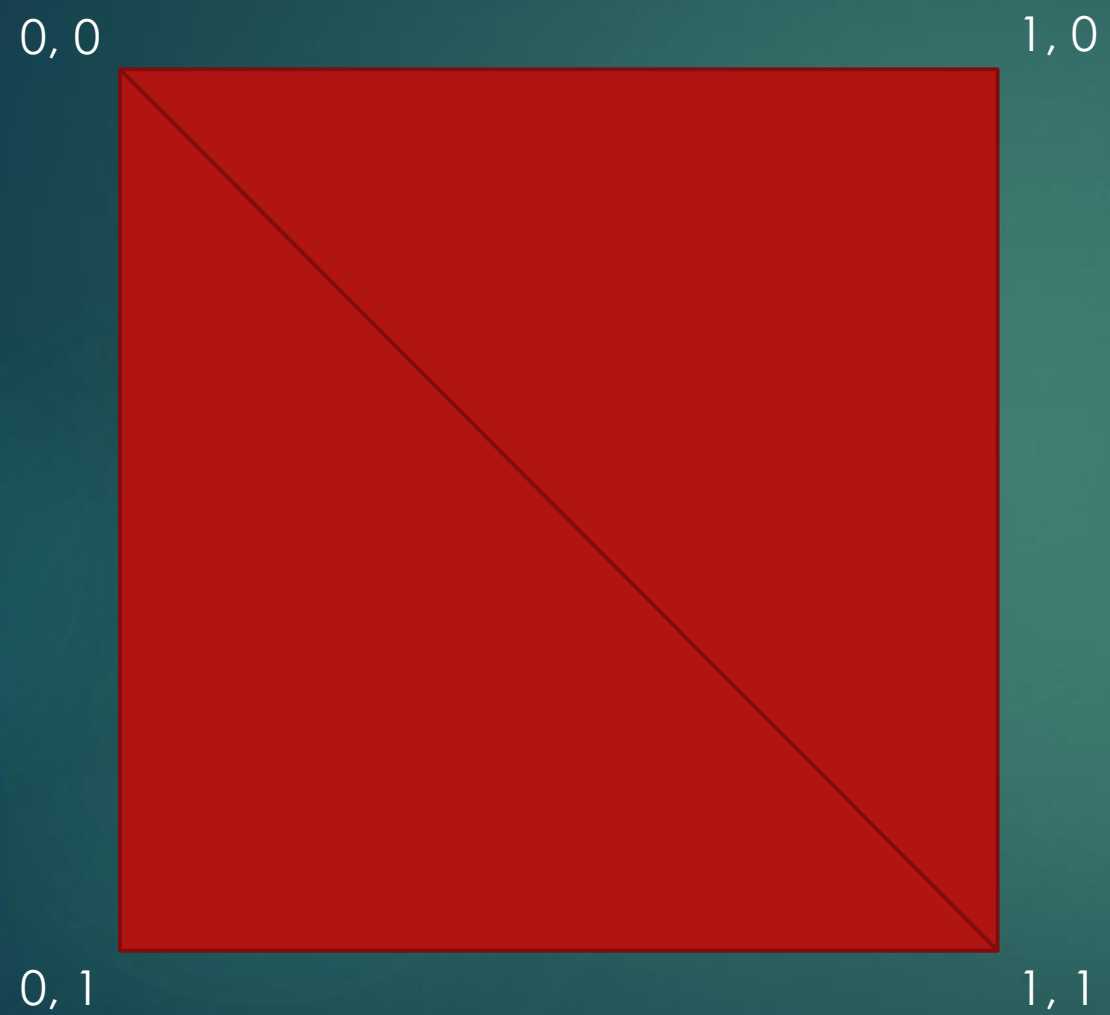
3D



WebCL(OpenCL)



Problem setup



Problem setup

0, 0

1, 0



0, 1

1, 1