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Architechatural Elements

Use Device Buffer Adress for large buffers (vertex data, parameters, images), uniforms for global scene data (time, camera, lights) and depending on material use uniforms for texture and samplers. Use push constants for per object data (attenuation, device buffer index)

Rendering primitives (lines, curves, circles, arcs, polygons) and their 3D variants

The plan here is to have a single pipeline for all these primitives. This will mean that the fragment shader has some branching. Font rendering will be covered by this since they count as curves. To make it more performant we combine tessellation with this so that we have a nice size of triangles—not too small and not too big. With too large triangles we waste alot in the fragment shader, with too small we will be vertex limited. Tessellation should ideally be done in the mesh shader. We could also support texture in this pipeline but idk.

Rendering traditional meshes

Use a PBR material with its own pipeline or two