APIs for WebXR

- Canvas is HTML Element (in the DOM) you can draw into (bitmapped)
  - covers rectangular part or all of window
  - *doesn't* contain DOM, nor retain your draw calls
- Current: **WebGL 2**: *context* of HTML Canvas
  - based closely on OpenGL ES 3.0,
  - focus is on the shader program, written in GLSL (you serve GLSL files just like JavaScript): flat, PBR, toon, points, etc
  - not accessible to the blind :-(
- Future: **WebGPU** in progress
  - new kind of Context of HTML Canvas element
  - no baggage from 1990s & supports modern GPU architectures
  - abstraction on top of Vulkan, Metal & DirectX 12
  - focuses on resource re-use via "pipelines" & "RenderBundles"

Example: aframe-shader-buildings

- Several styles of buildings;
  all buildings of one style are one object
- Buildings can only be placed on grid
- Each building is just an ell-shaped box made from 12 triangles
- Novel: shader uses 3-D position to switch from texture for walls to cubemap texture for windows
- Result: Thousands of buildings w/ sharp transition from wall to window