VERGELIJKENDE STUDIE

WebGl

vs

Canvas2D

Feiten

Feiten

WEBGL

- Javascript API
- <canvas> context
- Low-level
- 2D & 3D

CANVAS 2D

- ➤ Javascript API
- ➤ <canvas> context
- ➤ High-level
- ➤ 2D

BROWSER COMPATIBILITY

WEBGL

- Chrome 9
- Firefox 4
- IE 11 (partially)
- Opera 11
- Safari 5.1
- only 10% mobile support

CANVAS 2D

- Chrome 1
- Firefox 1.5
- IE 9
- Opera 9
- Safari 9

Complexiteit

LEARNING CURVE

WEBGL

- Hard & Long
- Low-level

CANVAS 2D

- Easy
- High-level

EXAMPLE: DRAWING AN IMAGE

WEBGL

- Draw A quad (2 triangles)
- Provide x&y for every vertex
- Attach texture
- …

CANVAS 2D

➤Create image and set x&y coordinates

EXAMPLE: DRAWING AN IMAGE (CODE)

WEBGL

- See webgl/sample_1
- ~140 lines of code

CANVAS 2D

- See canvas2D/sample_1
- ~3 lines of code

PERFORMANCE

PERFORMANCE TEST

- Add rectangles to scene
- Until fps < 30

PERFORMANCE TEST

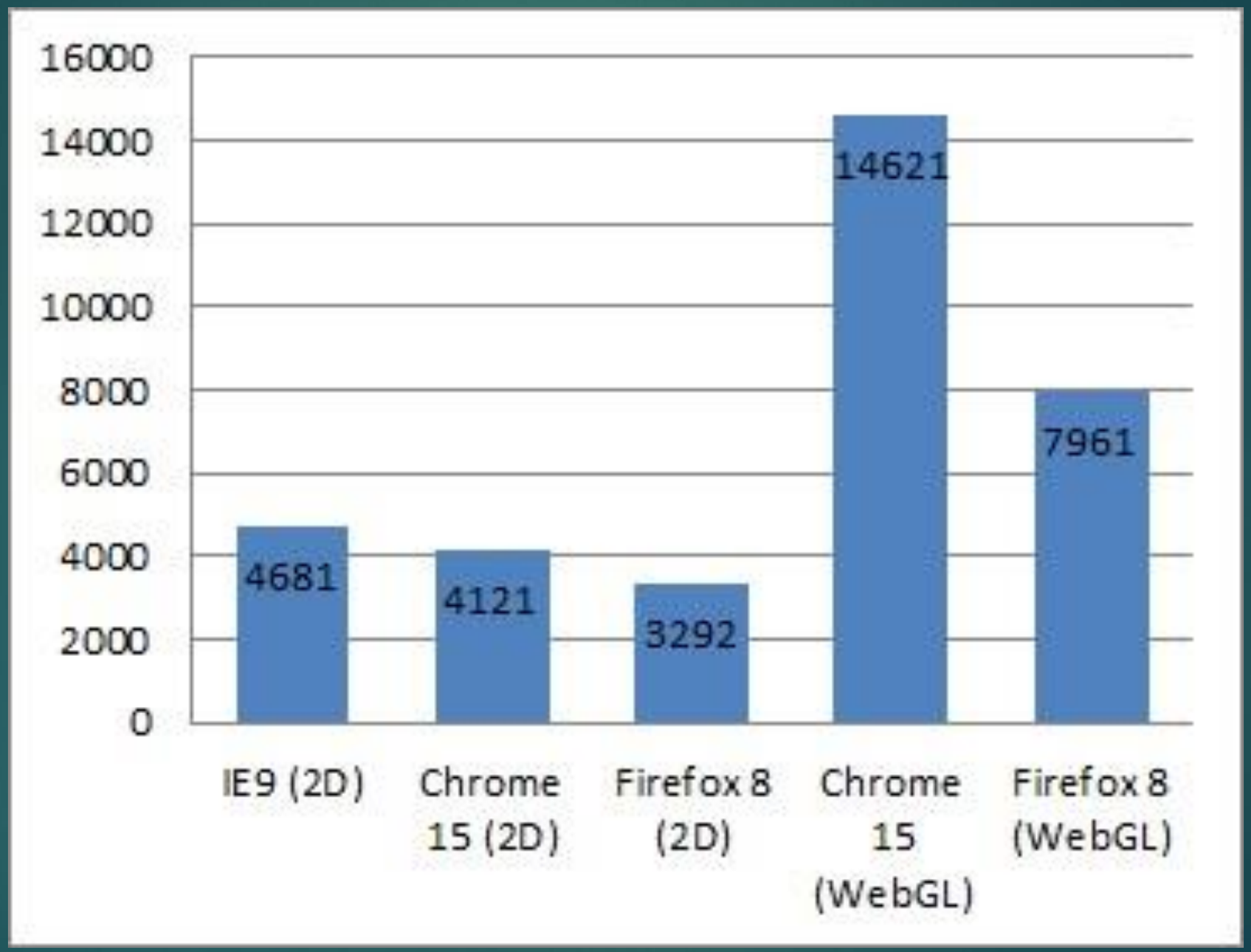
WEBGL

- Stops at ~1000 objects (safari)=> Buffer data takes time
- Stops at ~14000 objects (chrome) => without buffer:
- GPU IS FAST! but sending data to it, not so much!

CANVAS 2D

- ➤ Stops at ~2000 objects (safari)
- ➤ Stops at ~2000 objects (Chrome)

PERFORMANCE TEST (Externe bron)



DRAWING AN IMAGE (Voorbeeld)

WEBGL

- See webgl/sample_2

CANVAS 2D

- See canvas2D/sample_2

Besluit

Besluit

- Canvas 2D is fast but WeBGl is king
- Canvas 2D is easier to learn and use
- Chrome beats all
- GPU Drawing speed will always be faster then you are
- WebGl not good for mobile