Polyfilling WebVR

Jordan Santell
WebXR @google

webvr-polyfill

github.com/googlevr/
webvr-polyfill

```
68  // Initialize our virtual VR devices.
69  var vrDisplay = null;
70
71  // Add a Cardboard VRDisplay on compatible mobile devices
72  if (this.isCardboardCompatible()) {
73    vrDisplay = new CardboardVRDisplay();
74
75    this.connectDisplay(vrDisplay);
76
77    // For backwards compatibility
78    if (window.WebVRConfig.ENABLE_DEPRECATED_API) {
79      this.devices.push(new VRDisplayHMDDevice(vrDisplay));
80      this.devices.push(new VRDisplayPositionSensorDevice(vrDisplay));
81    }
82  }
83
84  // Add a Mouse and Keyboard driven VRDisplay for desktops/laptops
85  if (!this.isMobile() && !window.WebVRConfig.MOUSE_KEYBOARD_CONTROLS_DISABLED) {
86    vrDisplay = new MouseKeyboardVRDisplay();
87    this.connectDisplay(vrDisplay);
88
89    // For backwards compatibility
90    if (window.WebVRConfig.ENABLE_DEPRECATED_API) {
91      this.devices.push(new VRDisplayHMDDevice(vrDisplay));
92      this.devices.push(new VRDisplayPositionSensorDevice(vrDisplay));
93    }
94  }
95
96  // Uncomment to add positional tracking via webcam.
```

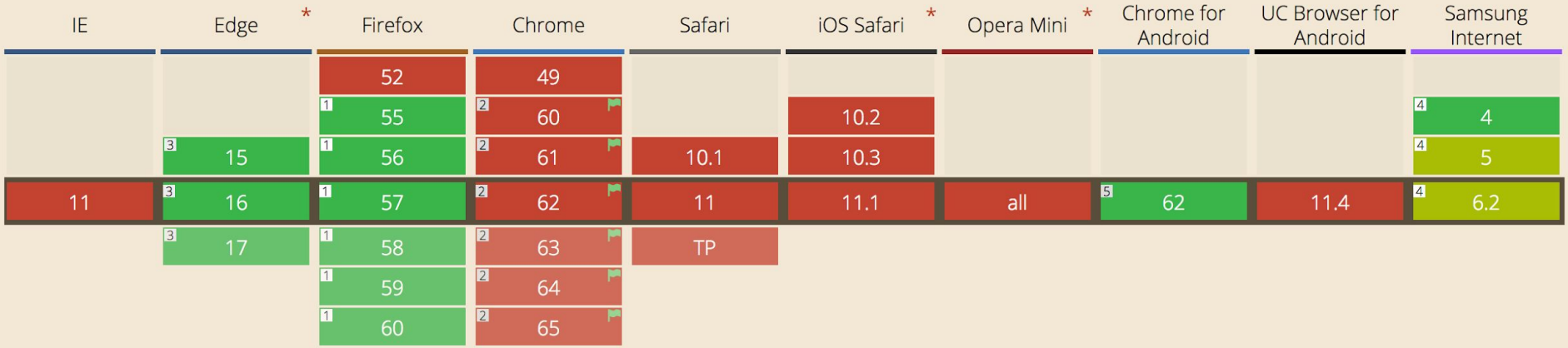
What the polyfill does

- Injects a WebVR 1.1 JS implementation
- Patches 1.0 to 1.1
- Provides VRDisplays
  - MouseKeyboardVRDisplay
  - CardboardVRDisplay

caniuse.com

API for accessing virtual reality (VR) devices, including sensors and head-mounted displays.

Current aligned | Usage relative | Date relative | Show all



Notes | Known issues (1) | Resources (8) | Feedback

Not every computer or smartphone could run WebVR appication. For smartphones, you need a gyroscope and for computers must be VR-ready also the needed sotfware (Oculus client or (Steam VR and VivePort)) and drivers must been installed on the computer. In this situations, you've the best experiance to use WebVR applications.
Chrome status: Origin trial

1 Available and enabled by default only in Firefox Windows. Enabled in Nightly for iOS.

2 Enabled behind the WebVR & "Gamepad Extensions" flags under `chrome://flags`. Currently builds use an older version of the (still changing) specification and supports only the Oculus Rift and the HTC vive on Windows VR-ready computers.

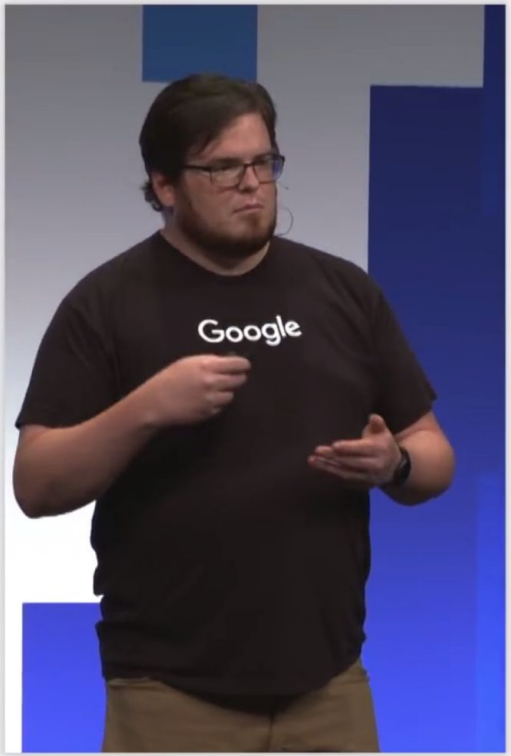
Why use the polyfill?

- Provide good developer experience: target one spec
- Responsive Content: it always works regardless of platform

The Future of webvr-polyfill

WebXR 2.0

chrome dev summit 2017



WebVR “2.0”

- Enshrines known best practices
- Origin trial early 2018
- Retiring current “1.1” API in Chrome
- Explainer available today. Spec incoming.
- All browser vendors committed to the transition

Migrating from 1.1 to 2.0

- There will be a period of overlap where both 1.1 and 2.0 are in shipping in browsers.
- Polyfill will ensure 2.0 content works on 1.1 browsers, and vice versa.
- Working to help update popular libraries such as Three.js and A-Frame.

Future plans

- Injects a WebVR ~~1.1~~ 2.0 JS implementation
- ~~Patches 1.0 to 1.1~~
- Patches 1.1 to 2.0
- Provides VRDisplays
  - ~~MouseKeyboardVRDisplay~~
  - CardboardVRDisplay

Thanks!

Jordan Santell/@jsantell