Virtual Reality @W3C

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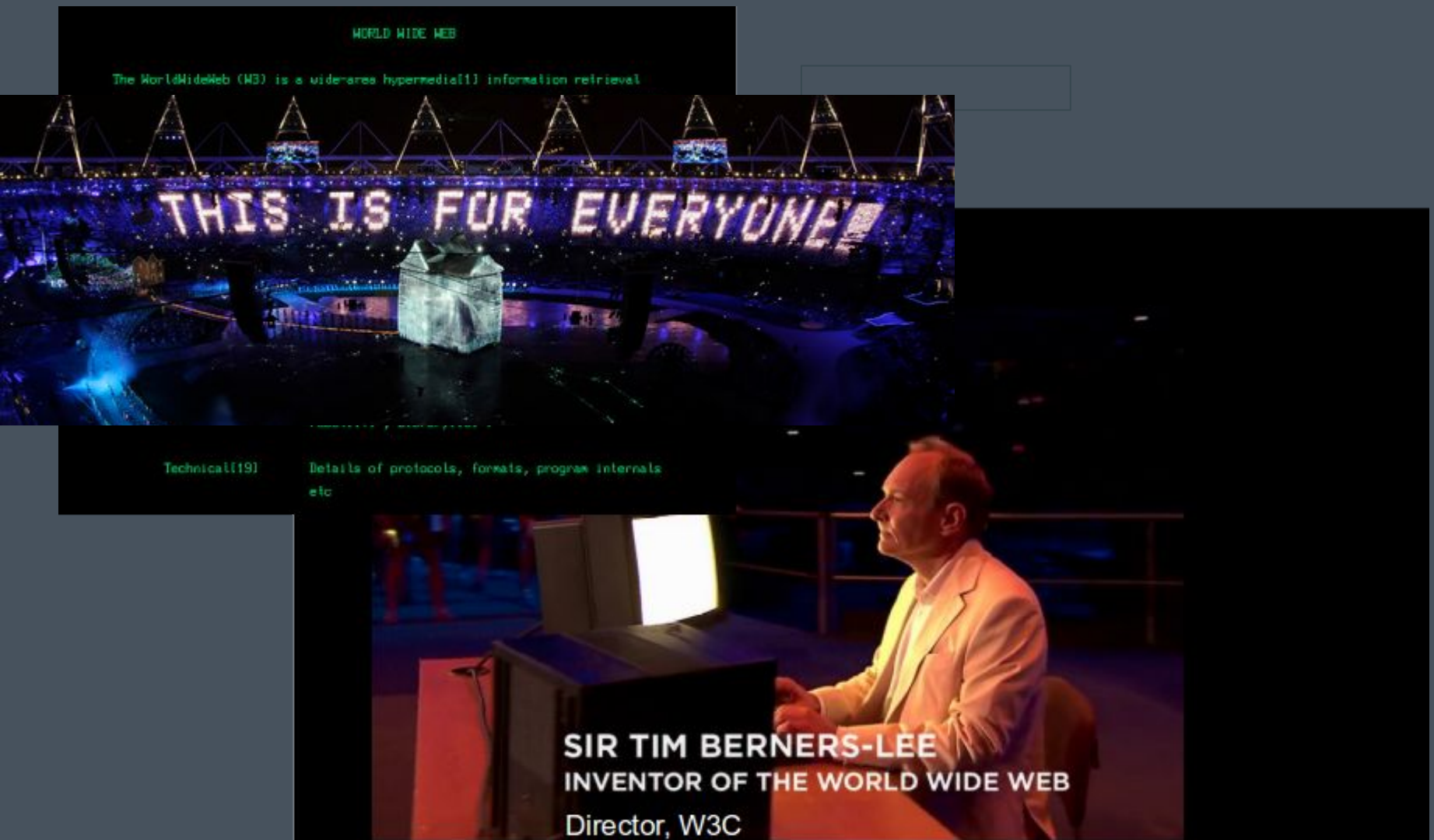
@wseltzer


WORLD WIDE WEB
The WorldWideWeb (W3) is a wide-area hypermedia[1] information retrieval
THIS IS FOR EVERYONE
Technical[19]
Details of protocols, formats, program internals
etc
SIR TIM BERNERS-LEE
INVENTOR OF THE WORLD WIDE WEB
Director, W3C

World Wide Web Consortium (W3C)

"Leading the Web to its full potential."

Voluntary consensus standards: cooperative solutions for open, interoperable platform improvement.

Royalty-free patent policy. Web for all.

The Art of Consensus.

235 active specifications (200 Rec-track), in ~50 Working Groups and Interest Groups, plus hundreds of Community Groups.

Standards work well for

- Shared technical problem
- Good enough technical solution
- Ecosystem interest in common resolution

W3C provides the forum and process: community and membership develop the specifications.

WebRTC

Live video chat native to the Web

Web Assembly

Blazing speed that exploits hardware capabilities

WebPerf

A framework for performance management

Web Payments

Bring e-commerce into a standard framework

WebVR

Bring Virtual Reality and Augmented Reality into the Web

WebAuthn

Step-up in security

Service Workers

Flexibility for offline support and performance enhancements via background tasks

Web Components

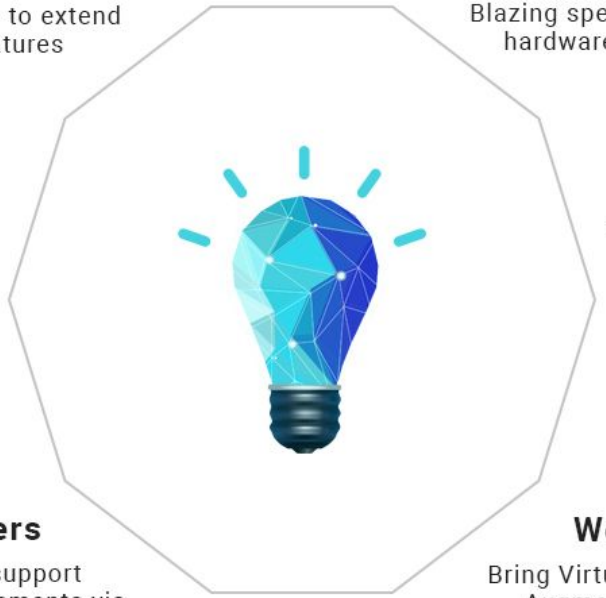
Custom, reusable, encapsulated HTML tags

MSE

A well developed media subsystem and APIs

Extensible Web

Allow developers to extend browser features



Membership and Liaisons

Path to Recommendation-Track Working Group:

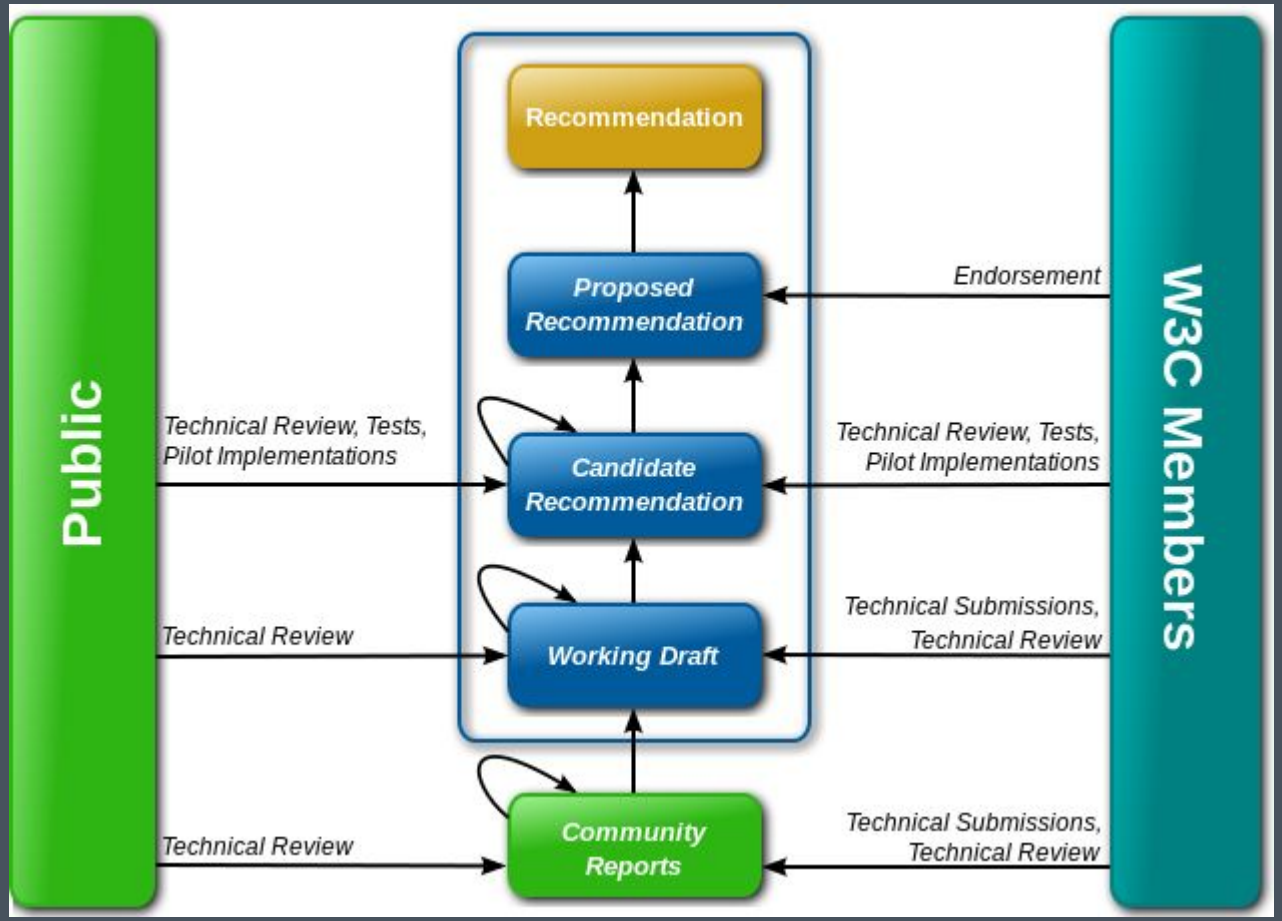
- Incubation + Evaluation
- Propose Charter to Advisory Committee for review
- Director approval
- Participation from Members and Invited Experts
- Series of Working Drafts=> Recommendation

Liaisons with other relevant technical organizations

Continued exploratory work in Community Group

Recommendation Track

Process



Patent Policy

https://www.w3.org/Consortium/Patent-Policy/

Royalty-Free patent policy: every participant in a Working Group commits to license essential claims

Community Groups, W3C Community Contributor License Agreement

Horizontal Reviews

Internationalization

Privacy

Security

Accessibility

Technical Architecture

W3C Immersive Web: Virtual and Augmented Reality

- WebVR
  - W3C Workshop on Web & Virtual Reality
  - W3C Workshop on WebVR Authoring: Opportunities and Challenges
  - WebVR **Community Group**: 192 participants
  - Potential WebVR Working Group
- Augmented and Mixed Reality
  - AR Pilot Project with OGC Innovation Program
  - Spatial Data on the Web IG
- Web Architecture: interoperable, device-independent platform

Formats, Vocabularies, APIs

Device and Sensor access

Fonts, Colors, Audio, Graphics

Media, WebRTC

Performance, WebAssembly

Payments, Authentication

Developer tools

Workshops

W3C

W3C Workshop on Web & Virtual Reality

October 19-20, 2016; San Jose, CA, USA

Minutes | Position Statements | Workshop Agenda | Call for Participation

W3C

W3C Workshop on WebVR Authoring: Opportunities and Challenges

Workshop Agenda | Call for Participation

See the agenda.

December 5-7, Brussels, Belgium at DigitYser.

Discover who's coming and register now!

Goals | Attending | Topics | Proposals | About | Location | Program

What is the purpose of this workshop?

The primary goal of the workshop is to bring together WebVR stakeholders to identify unexploited opportunities as well as technical gaps in WebVR authoring.

Participants in the workshop will:

1 Important Dates

~~Nov 10, 2017~~
~~Initial registration deadline~~

~~Nov 14, 2017~~
~~First round of Acceptance notification~~

~~Nov 24, 2017~~
~~Extended registration deadline~~

minutes are available.

ing the workshop are linked from the agenda.

ubmitted as input to the workshop are also available.

ırpose of this workshop?

ɔrkshop was to bring together practitioners of Web and
s to make the Open Web Platform a better delivery
ences.

ıe workshop were as follows:

ween practitioners in VR and related fields.
r VR use cases that are difficult or impossible today on the

standards and establish timelines to enable the Web to be a

ble platform for VR?

ıising preexisting ecosystem for the creation, distribution, and
ıt, applications, and services.

eb Platform, we hope to provide an interoperability to avoid
ıted effort.

latform need VR?

ı the the new possibilities offered by ubiquitous VR from
d media capabilities to tight integration with immersive
ays of discovering and interacting with content and services.

1 Host

W3C gratefully acknowledges Samsung for hosting this workshop.

SAMSUNG

2 Sponsors

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mozilla

Silver Sponsors

The Khronos Group

Sponsorship package info.

WebVR explainer, WebVR Community Group

What is WebVR?

WebVR is an API that provides access to input and output capabilities commonly associated with Virtual Reality hardware like Google's Daydream, the Oculus Rift, the Samsung Gear VR, the HTC Vive, and Windows Mixed Reality headsets. More simply put, it lets you create Virtual Reality web sites that you can view in a VR headset.

Ooh, so like *Johnny Mnemonic* where the Internet is all '90s CGI?

Nope, not even slightly. And why do you even want that? That's a terrible UX.

WebVR, at least initially, is aimed at letting you create VR experiences that are embedded in the web that we know and love today. It's explicitly not about creating a browser that you use completely in VR (although it could work well in an environment like that).

Goals

Enable Virtual Reality applications on the web by allowing pages to do the following:

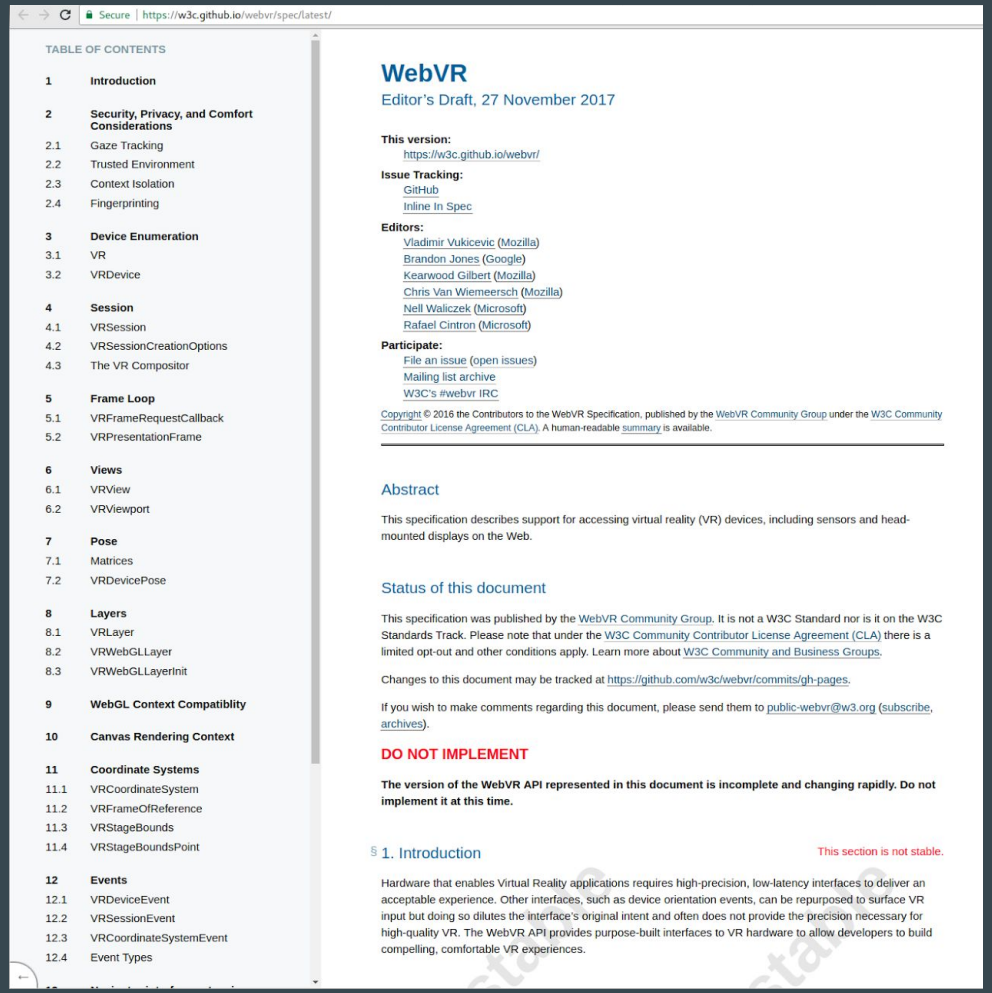
- Detect available Virtual Reality devices.
- Query the device's capabilities.
- Poll the device's position and orientation.
- Display imagery on the device at the appropriate frame rate.

WebVR Spec

https://w3c.github.io/webvr/

In development by WebVR Community Group, under W3C Community Contributor License Agreement

- 1.1 pre-release
- “v2.0” latest



Secure | https://w3c.github.io/webvr/spec/latest/

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WebVR

Editor’s Draft, 27 November 2017

This version:
https://w3c.github.io/webvr/

Issue Tracking:
GitHub
Inline In Spec

Editors:
Vladimir Vukicevic (Mozilla)
Brandon Jones (Google)
Kearwood Gilbert (Mozilla)
Chris Van Wiemeersch (Mozilla)
Nell Waliczek (Microsoft)
Rafael Cintron (Microsoft)

Participate:
File an issue (open issues)
Mailing list archive
W3C’s #webvr IRC

Copyright © 2016 the Contributors to the WebVR Specification, published by the WebVR Community Group under the W3C Community Contributor License Agreement (CLA). A human-readable summary is available.

Abstract

This specification describes support for accessing virtual reality (VR) devices, including sensors and head-mounted displays on the Web.

Status of this document

This specification was published by the WebVR Community Group. It is not a W3C Standard nor is it on the W3C Standards Track. Please note that under the W3C Community Contributor License Agreement (CLA) there is a limited opt-out and other conditions apply. Learn more about W3C Community and Business Groups.

Changes to this document may be tracked at https://github.com/w3c/webvr/commits/gh-pages.

If you wish to make comments regarding this document, please send them to public-webvr@w3.org (subscribe, archives).

DO NOT IMPLEMENT

The version of the WebVR API represented in this document is incomplete and changing rapidly. Do not implement it at this time.

§ 1. Introduction

This section is not stable.

Hardware that enables Virtual Reality applications requires high-precision, low-latency interfaces to deliver an acceptable experience. Other interfaces, such as device orientation events, can be repurposed to surface VR input but doing so dilutes the interface’s original intent and often does not provide the precision necessary for high-quality VR. The WebVR API provides purpose-built interfaces to VR hardware to allow developers to build compelling, comfortable VR experiences.

W3C

Views: desktop mobile print

STANDARDS PARTICIPATE

W3C » Participate » Mail, Ne

MAIL, NEWS, BLOGS, PODCASTS, AND TUTORIALS

- News
- Weekly Newsletter
- W3C Blog
- Mailing Lists
- Podcasts and Video
- Tutorials and Courses
- Team Submissions

W3C AND OGC
ADVENTURE F

4 December 2017 by J. Alan Bird | Po

We are putting a program in pla
impacts their real world product
Geospatial Consortium (OGC) f
of the OGC Innovation Program

We've chosen this as our first p
that enable augmented reality a
orientation data, and graphical
building blocks to create and de

info@opengeospatial.org

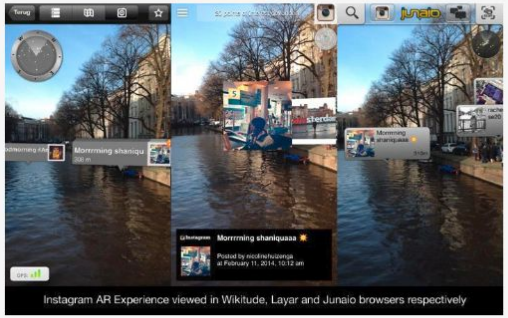
OGC® Making location count.

About Standards Innovation News & Events Membership Resources

OGC Calls for Sponsors for Augmented Reality Pilot Project

Contact:
info@opengeospatial.org

Release Date:
Wednesday, 29 November 2017 UTC
Joint OGC and W3C Pilot project will propose standards to unite Augmented Reality, Web, and Geospatial technologies.



Instagram AR Experience viewed in Wikitude, Layar and Junaio browsers respectively

Augmented Reality (AR) content encoded in ARML 2.0 displayed in Wikitude, Layar and Junaio browsers respectively. (Image from Wikitude)

W3C®

The Open Geospatial Consortium (OGC), and the World Wide Web Consortium (W3C), together are calling for sponsors for an upcoming Augmented Reality (AR) Pilot Project that seeks to advance W3C and OGC standards related to Augmented Reality.

As part of the Pilot, models, interfaces, and an architecture will be advanced to enable the seamless integration of 'real world,' geospatial, and web data.

AR helps people enhance their view of the world by displaying data on top of their physical surroundings. Most commonly this comes as digital information, such as nearby facilities or attractions, being overlaid in real-time onto a video feed being captured by a smartphone.

There are countless use cases where seamlessly bringing relevant information to a visual context can improve the way we learn, make processes more efficient, save lives, or avoid accidents. AR has assisted mechanics to make repairs, neurosurgeons during surgery, soldiers to gain insight on enemy locations, and maintenance crews in working with pipes hidden underground.

Thank you

...

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