

Web3D.org

Content

with



Web3D® Consortium

Member funded; community driven; nonprofit organization



- Developing the royalty-free ISO specifications -
- X3D® and HAnim for interactive 3D Graphics on the Web



- Community of Technologists and Enterprises
- Members include Academia, Government, Industry, Research, and Professionals
- Several open-source implementations



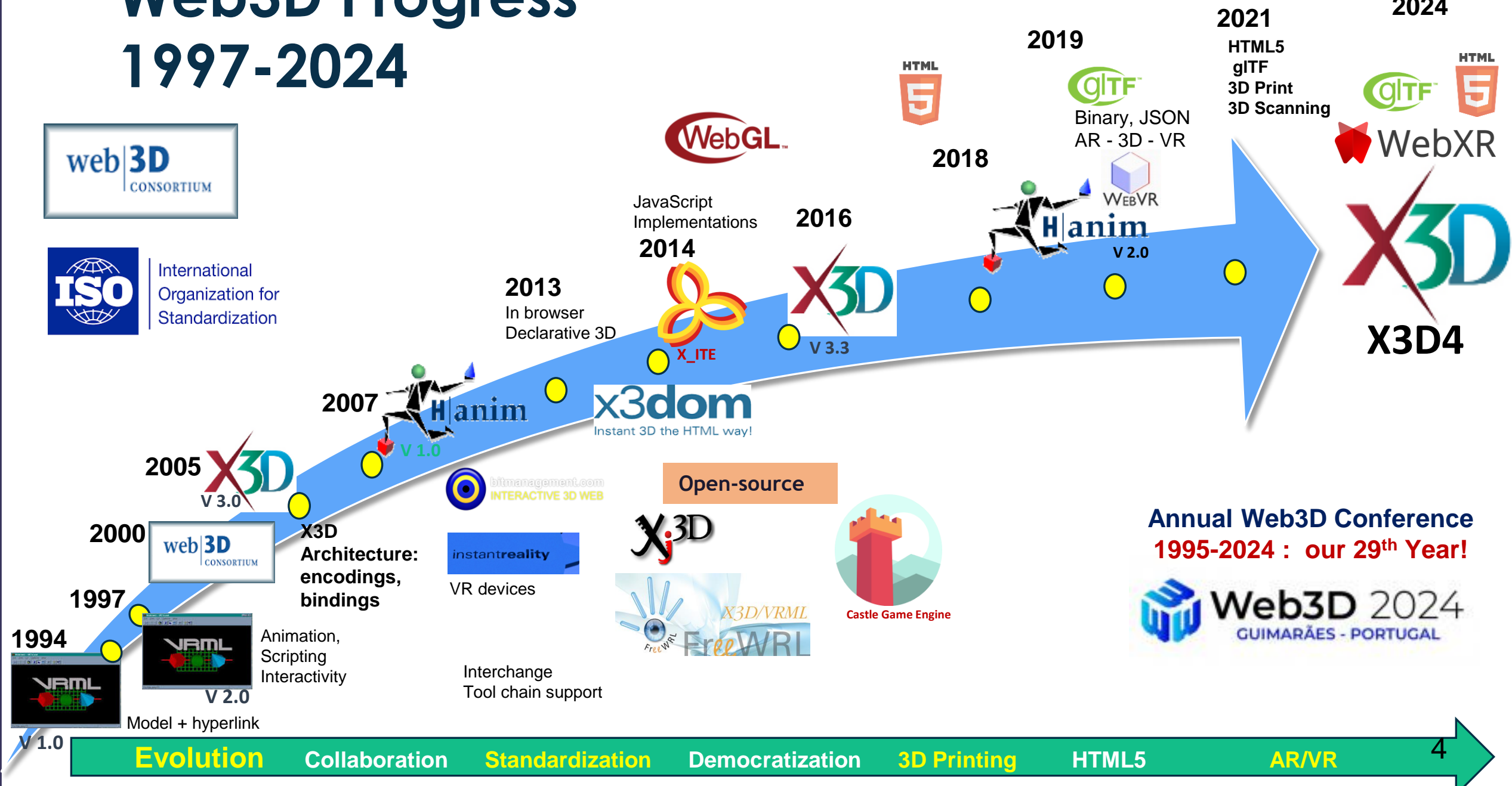
Castle Game Engine

X3D4 (ISO/IEC 19775-2023)

- Specifies harmonization with other standards:
 - **glTF 2.0**
 - **WebAudio**
 - **MPEG**
 - **MIDI**
 - **HTML + DOM**
 - **DICOM**



Web3D Progress 1997-2024



1994
VRML V 1.0
Model + hyperlink

1997
VRML V 2.0
Animation, Scripting, Interactivity

2000
web3D CONSORTIUM
X3D Architecture: encodings, bindings

2005
X3D V 3.0

2007
H|anim V 1.0

2013
In browser Declarative 3D

x3dom
Instant 3D the HTML way!

X_ITE

2014
JavaScript Implementations

WebGL

2016
X3D V 3.3

HTML5

2018

H|anim V 2.0
WEBVR

2019

glTF
Binary, JSON
AR - 3D - VR

2021

HTML5
glTF
3D Print
3D Scanning

WebXR

X3D

X3D4

2024

Annual Web3D Conference
1995-2024 : our 29th Year!

Web3D 2024
GUIMARÃES - PORTUGAL

Open-source

bitmanagement.com
INTERACTIVE 3D WEB

instantreality
VR devices

Interchange
Tool chain support

Xj3D

X3D/VRML
FreeWRL

Castle Game Engine

Evolution Collaboration Standardization Democratization 3D Printing HTML5 AR/VR **4**



X3D: Extensible for Innovation

- @ 2000 : XML & binary
- @ 200x : Shader programming
- @ 200x : Virtual Reality (CAVEs, Headsets)
- @ 201x : WebGL
- @ 201x : Physically-Based Rendering (PBR)
- @ 2023 : WebXR
- @ 2024 : X3D4





X3D: Extensible for the Web

- Interoperable (X3D + HTML5 + glTF + WebGL)
- Portable across mobile, Web, WebXR and Immersive platforms
- Multiple encodings: XML, VRML, Binary, JSON
- Multiple language APIs:
Java, JavaScript, Python, C, C++, C#
- 3D CMS and data-driven worlds since 1998 !

Extensible for Convergence

Web, industry and standards bodies have been collaborating for a foundation for open interoperable enterprise 3D solutions



... and many more!

www.web3D.org/liaisons

Metaverse Standards Forum

3D Web Interoperability WG

- Use Cases -> Requirements
- Standards review & Gap Analysis
- Projects
 - Linked spatial experiences
 - Functional Profiles for Metaverse content
 - 3D UserAgent
 - Consistency of Experience



NEW RELEASES!

Four different open-source engines released for SIGGRAPH!

Chock-Full-O-Features and formats ~!



X3DOM.org : Javascript Engine - New Release 1.8.3

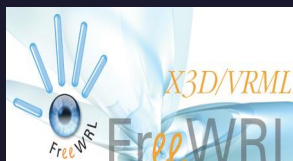


X_ITE Javascript Engine - New Release 10.0.5



Castle Game Engine

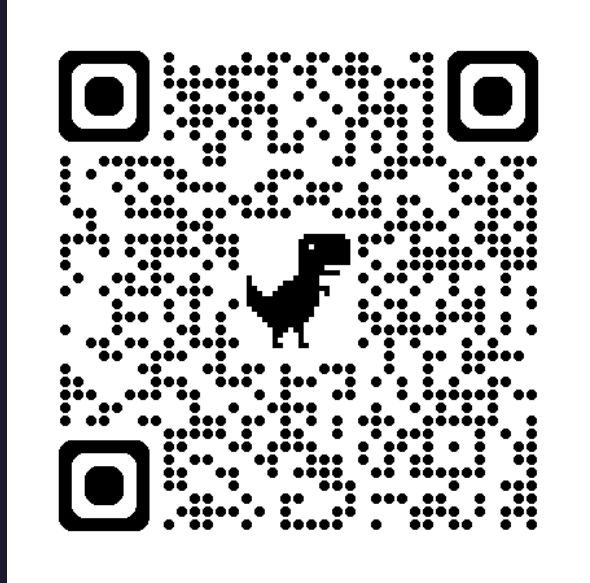
Castle Game Engine



FreeWRL 6.1



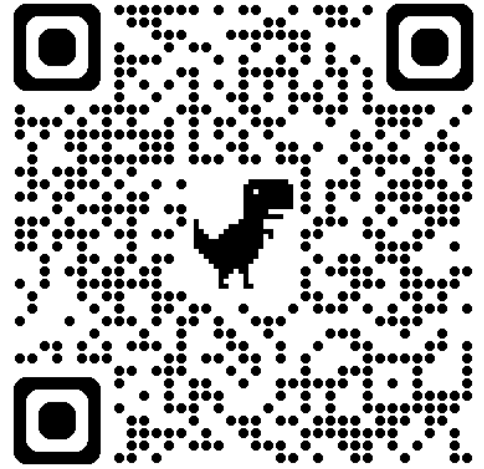
X3DOM.org



- JavaScript WebGL platform for X3D + HTML
- 1.8.3 release includes WebXR support
- Support for:
 - X3D Geospatial support (multiple projections)
 - Proposed [HTML profile](#)
 - glTF support
 - Sandbox in-browser editor



X_ITE

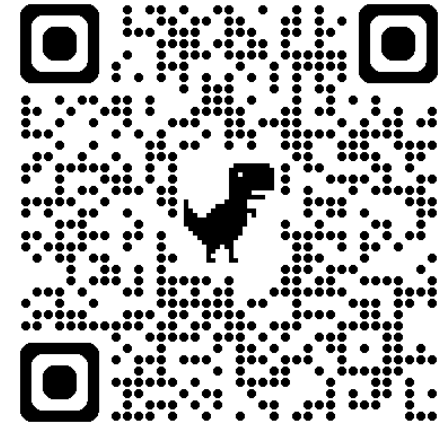


- JavaScript WebGL platform for X3D + HTML
- New release 10.0.5 !
- Recent Features
 - glTF, GLB: all extensions supported
 - Playground in-browser editor w/ syntax highlighting
 - Sunrize Editor w/ tooltips & material, texture, and audio preview
 - Full support for: VRML, STL, OBJ, PLY, SVG

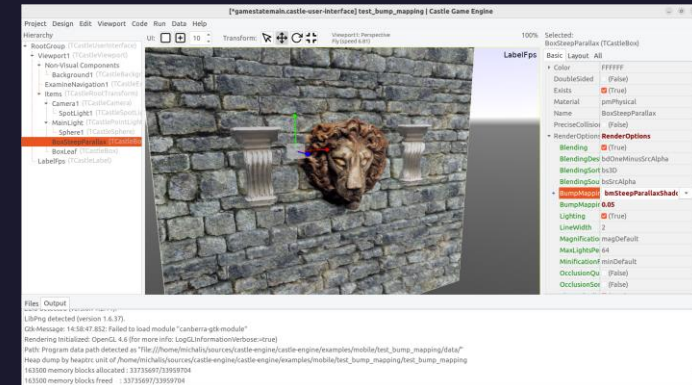


Castle Game Engine

Castle Engine



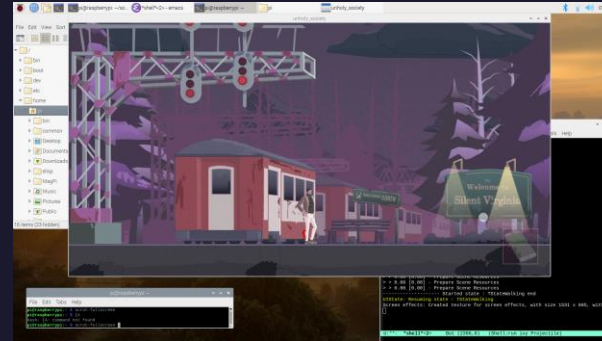
- Open source game editor and engine
 - Cross-platform (desktop, mobile, console) 3D and 2D game engine
 - Powerful visual editor.
 - Support for glTF, X3D, VRML, Spine, and *more*
 - Fast clean code using modern Pascal
 - Free and open-source



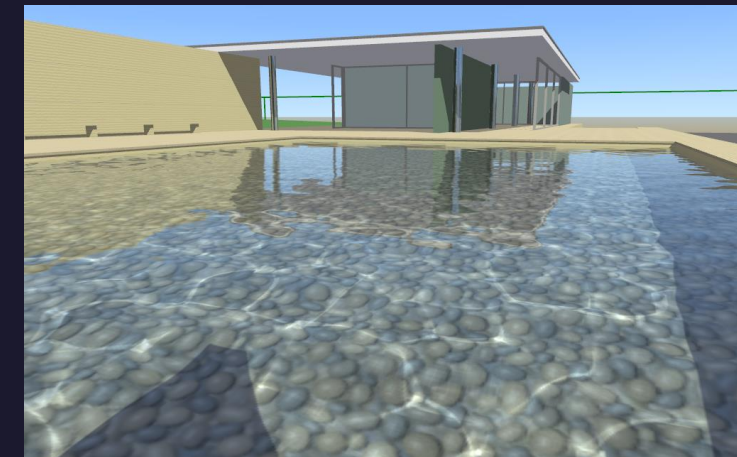
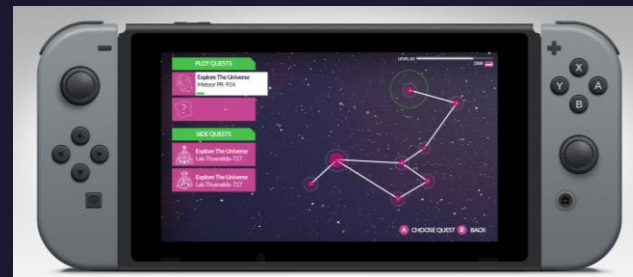


Castle Game Engine

Castle Engine

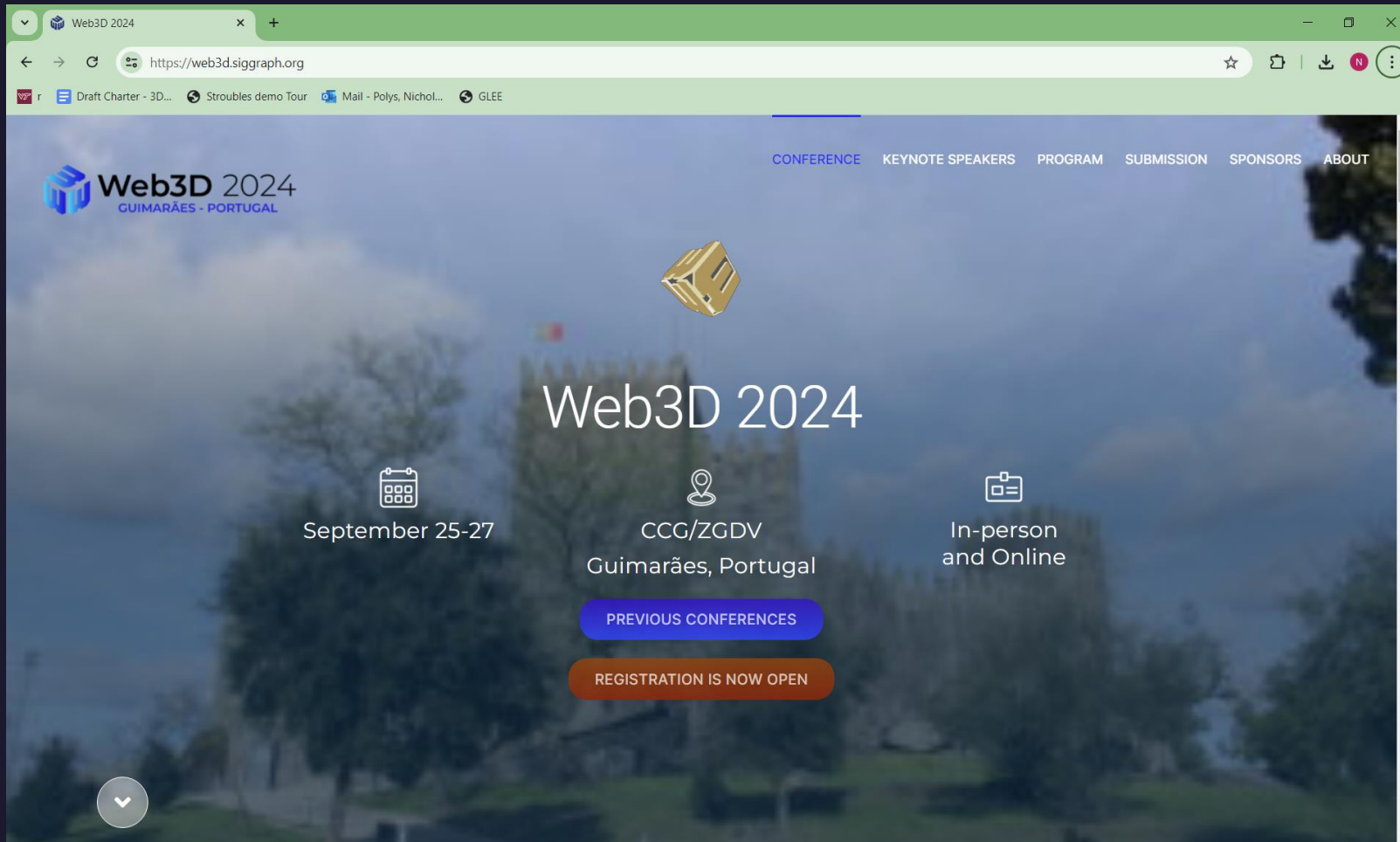


- glTF (editor w SktchFab integration) + X3D
- Physics, composable shader effects, shadows, mirrors, physically based rendering, bump mapping, gamma correction
- Target any platform (desktop: Windows, Linux, macOS, FreeBSD, Raspberry Pi, mobile: Android, iOS, console: Nintendo Switch).
- WebGL (WASM) and Oculus (VR) coming soon.
- IDE integration, Patreon



Web3D 2024

Web3D.SIGGRAPH.org



The screenshot shows the homepage of the Web3D 2024 website. The browser address bar displays <https://web3d.siggraph.org>. The website features a navigation menu with links for CONFERENCE, KEYNOTE SPEAKERS, PROGRAM, SUBMISSION, SPONSORS, and ABOUT. The main content area includes the Web3D 2024 logo (GUIMARÃES - PORTUGAL), a 3D golden cube icon, and the event title "Web3D 2024". Key details are presented with icons: a calendar icon for "September 25-27", a location pin icon for "CCG/ZGDV Guimarães, Portugal", and a document icon for "In-person and Online". Two prominent buttons are visible: a blue "PREVIOUS CONFERENCES" button and an orange "REGISTRATION IS NOW OPEN" button. A scroll-down arrow is located in the bottom left corner of the page.

Join Our Global Community: Web3D.org !

The screenshot shows the Web3D Consortium website. At the top left is the logo "web|3D CONSORTIUM" with the tagline "Open Standards for Real-Time 3D Communication". To the right is a globe and a "Log in" button. Below the logo is a navigation menu with items: HOME, NEWS & EVENTS, CREATE X3D, PARTICIPATE, STANDARDS, and ABOUT. The main content area features a diagram illustrating the X3D workflow. On the left, a "CONVERT" box receives input from Blender, SketchUp, unity, 3DS MAX, and others. An arrow points from the "CONVERT" box to an "X3D" box, which also receives input from GLTF, a landscape image, a speaker icon, and a video camera icon. An arrow points from the "X3D" box to a collection of devices including a desktop monitor, a laptop, a tablet, and a smartphone, all displaying 3D content. To the right of the diagram, the text "X3D Means 3D Anywhere" is displayed. At the bottom of the slide, there is a large, faint blue "C" logo.