

dmnsgn / WebGL-WebGPU-frameworks-libraries.md

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Code

Revisions 74

Stars 1,318

Forks 177

A collection of WebGL and WebGPU frameworks and libraries

[WebGL-WebGPU-frameworks-libraries.md](#)

A non-exhaustive list of WebGL and WebGPU frameworks and libraries. It is mostly for learning purposes as some of the libraries listed are wip/outdated/not maintained anymore.

Engines and libraries

Name	Stars	Last Commit	Description
three.js	Stars 98k	last commit today	JavaScript 3D library
stack.gl	Stars 111	last commit april 2020	an open software ecosystem for WebGL, built on top of browserify and npm.
PixiJS	Stars 42k	last commit february	Super fast HTML 5 2D rendering engine that uses webGL with canvas fallback
Pex	Stars 412	last commit august 2018	Pex is a javascript 3d library / engine allowing for seamless development between Plask and WebGL in the browser.
Babylon.js	Stars 22k	last commit yesterday	a complete JavaScript framework for building 3D games with HTML 5 and WebGL
Filament	Stars 17k	last commit today	Filament is a real-time physically based rendering engine for Android, iOS, Windows, Linux, macOS and WASM/

Name	Stars	Last Commit	Description
			WebGL
ClayGL	Stars 2.7k	last commit october 2021	A WebGL graphic library helping you to build scalable Web3D applications
AwayJS	Stars 24	last commit december 2018	AwayJS is a graphics library for javascript written in typescript
SceneJS	Stars 647	last commit may 2018	An extensible WebGL-based engine for high-detail 3D visualisation
Blend4Web	Stars 768	last commit july 2018	a tool for interactive 3D visualization on the Internet
PlayCanvas	Stars 9k	last commit today	JavaScript game engine built on WebGL and WebVR
Turbulenz	Stars 4.4k	last commit december 2015	Turbulenz is a modular 3D and 2D game framework for making HTML5 powered games for browsers, desktops and mobile devices.
Hilo3d	Stars 630	last commit july 2023	a WebGL Rendering Engine.
litescene	Stars 351	last commit august 2020	A WebGL 3D Engine library with component-based node hierarchy. Used by WebGLStudio.
Two.js	Stars 8.1k	last commit last thursday	A renderer agnostic two-dimensional drawing api for the web.
webgl-operate	Stars 164	last commit january	A TypeScript based WebGL rendering framework.
Rhodonite	Stars 105	last commit january	Rhodonite Web3D Library in TypeScript
Zogra	Stars 22	last commit february 2023	A simple WebGL2 renderer.
LayaAir	Stars 1.5k	last commit today	LayaAir is an open-source 2D/3D engine. LayaAir Engine is designed for high performance games.
libGDX	Stars 23k	last commit february	Desktop/Android/HTML5/iOS Java game development framework.

WebGPU



Name	Stars	Last Commit	Description
dawn			Dawn, a WebGPU implementation
wgpu	Stars 10k	last commit yesterday	Safe and portable GPU abstraction in Rust, implementing WebGPU API.
RedGPU	Stars 322	last commit january	RedGPU - Javascript webGPU Engine
sokol	Stars 5.6k	last commit yesterday	3D-API wrapper
wgpu	Stars 10k	last commit yesterday	Native WebGPU implementation based on gfx-hal
dgel	Stars 184	last commit may 2023	A WebGPU engine.
YUE	Stars 38	last commit november 2020	Personal WebGPU based 3D renderer.
Simple-GPU	Stars 435	last commit january	Functional WebGPU.
Vello	Stars 1.8k	last commit last monday	An experimental GPU compute-centric 2D renderer.
GWebGPUEngine	Stars 142	last commit september 2023	A WebGPU Engine for real-time rendering and GPGPU.
Orillusion	Stars 3.6k	last commit january	Orillusion is a pure Web3D rendering engine which is fully developed based on the WebGPU standard.
Haiku	Stars 13	last commit last friday	HTML5 WebGPU Game Engine 2D & 3D written in TypeScript
XGPU	Stars 12	last commit december 2023	a higher-level, easy-to-use interface for building rendering engines or processing numeric data.
webgpu-renderer	Stars 185	last commit september 2023	A simple renderer implemented by WebGPU, includes a builtin path tracing pipeline.

Name	Stars	Last Commit	Description
points	Stars 21	last commit february	A Generative Art library made in WebGPU
WebGPU Raytracer	Stars 52	last commit january	Realtime path tracing via WebGPU compute shaders

Toolkits and micro frameworks

Name	Stars	Last Commit	Description
regl	Stars 5.1k	last commit january 2023	Fast functional WebGL
lightgl.js	Stars 1.5k	last commit june 2016	A lightweight WebGL library
TWGL	Stars 2.5k	last commit august 2023	A Tiny WebGL helper Library
p5.js	Stars 21k	last commit yesterday	a new interpretation of Processing, not an emulation or port.
Four	Stars 249	last commit august 2016	a slightly higher level graphics API based on WebGL 1.0
TDL	Stars 280	last commit april 2015	TDL is a low-level library for WebGL apps (see TWGL)
KickJS	Stars 196	last commit january 2017	A WebGL game engine for modern web-browsers
nanogl	Stars 460	last commit december 2023	webgl micro framework
Alfrid	Stars 232	last commit july 2020	A WebGL tool set
Medium	Stars 93	last commit april 2019	Progressive WebGL toolkit for art
PicoGL.js	Stars 779	last commit january 2022	A minimal WebGL 2-only rendering library
O-GL	Stars 3.4k	last commit february	Minimal WebGL framework
mini-webgl	Stars 22	last commit november 2017	Mini toy WebGL library
phenomenon-px	Stars 81	last commit august 2018	The fastest way to create pixel shaders.

Name	Stars	Last Commit	Description
zen-3d	Stars 192	last commit january 2023	JavaScript 3D library.
GLOW	Stars 244	last commit march 2014	GLOW is a WebGL wrapper, which focuses on easy creation and use of shaders.
Helix	Stars 94	last commit december 2018	A Javascript 3D engine.
GrimoireJS	Stars 345	last commit november 2017	A WebGL framework for Web development.
litegl.js	Stars 355	last commit march 2023	Lightweight Javascript WebGL library for handling Context, Meshes, Textures and Shaders.
CraZyPG	Stars 28	last commit may 2018	lowlevel webgl2.0 library
GLBoost	Stars 105	last commit september 2020	A Useful WebGL Library for Small Turning
RedCube.js	Stars 95	last commit april 2022	WebGL2 rendering library.
RedGL2	Stars 153	last commit august 2023	RedGL - JavaScript 3D library
gi-voxels	Stars 45	last commit may 2018	WebGL Voxel Cone Tracing
artgl	Stars 53	last commit december 2019	TypeScript 3D framework. Building blocks & infrastructure for Web 3D application.
Squareroot.js	Stars 202	last commit october 2022	A 2d/3d engine for WebGL and Canvas rendering and animation
gl3	Stars 9	last commit july 2019	webgl helper library
wwg	Stars 2	last commit may 2019	Simple WebGL wrapper
glTips	Stars 18	last commit june 2016	Useful, cherry-pickable, and CC0 (public domain like) licensed WebGL routine code snippets.
dan-shari-gl	Stars 17	last commit december 2019	minimum webgl framework developed with TypeScript
hwoa-rang-gl	Stars 22	last commit april 2022	Lightweight WebGL Library written in Typescript

Name	Stars	Last Commit	Description
desenha	Stars 3	last commit september 2023	A barebones WebGL framework.
Tmp3D	Stars 56	last commit january	A 3-D software renderer written from scratch in nothing but JavaScript
opusgl	Stars 14	last commit november 2022	A minimal rendering library.
feng3d	Stars 50	last commit january 2023	TypeScript 3D engine built on WebGL.
swissgl	Stars 1.1k	last commit february	SwissGL is a minimalistic wrapper on top of WebGL2 JS API.
four	Stars 251	last commit november 2023	Minimal three.js alternative.

Path Tracing ↗

Name	Stars	Last Commit	Description
Snelly	Stars 364	last commit february 2023	A system for physically-based SDF (signed distance field) pathtracing in WebGL
Ashes	Stars 321	last commit november 2022	WebGL2.0 3D Engine & ECS & RayTracing

Tools build on top of...

Name	Stars	Last Commit	Description
WhitestormJS	Stars 6.1k	last commit april 2020	Super-fast 3D framework for Web Applications & Games. Based on Three.js
Phaser	Stars 36k	last commit yesterday	Phaser is a fast, free, and fun open source HTML5 game framework. It uses a custom build of Pixi.js.

Name	Stars	Last Commit	Description
OSG.js	Stars 784	last commit april 2020	Javascript Implementation of OpenSceneGraph
Ammo.js	Stars 4k	last commit november 2023	Direct port of the Bullet physics engine to JavaScript using Emscripten
gl-engine	Stars 75	last commit august 2017	an experimental ES6 WebGL engine built on stack.gl
GLAM	Stars 236	last commit february 2015	glam (GL A nd M arkup) is a declarative language for creating 3D web content.
potree	Stars 4.1k	last commit january	WebGL point cloud viewer for large datasets
plotly.js	Stars 16k	last commit yesterday	Built on top of d3.js and stack.gl, plotly.js is a high-level, declarative charting library.
threeify	Stars 196	last commit november 2023	threeify is a Typescript 3D library loosely based on three.js.
ROYGBIV	Stars 602	last commit october 2021	A 3D engine for the Web
shree	Stars 133	last commit june 2019	lite three.js
Taro	Stars 740	last commit april 2022	A lightweight 3D game engine for the web.
Alien.js	Stars 749	last commit november 2023	Alien.js is a MVC design pattern for building single-page applications with ES modules and three.js, intended for developers who are interested in creating their own shaders.
gpu-io	Stars 1.2k	last commit january	A GPU-accelerated computing library for physics simulations and other mathematical calculations
enable3d	Stars 903	last commit february	Standalone 3D Framework / Physics for three.js (using ammo.js) / 3D extension for Phaser 3

Name	Stars	Last Commit	Description
lgl-tracer			LGLTracer is a web ray tracing renderer, implemented as a plug-in library on top of Threejs.

Maps and visualizations

Name	Stars	Last Commit	Description
Mapbox GL JS	 Stars 11k	last commit february	Interactive, thoroughly customizable maps in the browser, powered by vector tiles and WebGL.
Deck.gl	 Stars 12k	last commit today	WebGL based visualization layers
LumaGL	 Stars 2.2k	last commit today	A JavaScript WebGL Framework for Data Visualization
Cesium	 Stars 12k	last commit last monday	Open-source library for world-class 3D globes and maps.
xeogl	 Stars 1.1k	last commit may 2020	A data-driven 3D visualization engine on WebGL
PhiloGL	 Stars 803	last commit september 2012	A WebGL Framework for Data Visualization, Creative Coding and Game Development
MathBox	 Stars 1.2k	last commit january 2023	Presentation-quality WebGL math graphing
VTK	 Stars 1.1k	last commit february	Visualization Toolkit for the Web
Apache ECharts	 Stars 58k	last commit yesterday	A powerful, interactive charting and data visualization library for browser
Troika	 Stars 1.5k	last commit january	A JavaScript framework for interactive 3D and 2D visualizations
@antv/g	 Stars 990	last commit last friday	A powerful rendering engine for AntV implemented with Canvas2D / SVG / WebGL / WebGPU.

VR

Name	Stars	Last Commit	Description
A-Frame	 Stars 16k	last commit yesterday	A web framework for building virtual reality experiences.
PlayCanvas	 Stars 9k	last commit today	JavaScript game engine built on WebGL and WebVR

WebAssembly

Name	Stars	Last Commit	Description
GLAS	 Stars 837	last commit october 2023	WebGL in WebAssembly with AssemblyScript
WebRays	 Stars 60	last commit september 2021	Ray Tracing on the Web
mugl	 Stars 93	last commit may 2023	Micro WebGL 2.0 3D Graphics Library for JavaScript and WebAssembly

Gaussian Splatting

Name	Stars	Last Commit	Description
splat	 Stars 1.3k	last commit january	WebGL 3D Gaussian Splat Viewer.
gsplat.js	 Stars 1.1k	last commit february	JavaScript Gaussian Splatting library.
GaussianSplats3D	 Stars 749	last commit last thursday	Three.js-based implementation of 3D Gaussian splatting.

Rust

Name	Stars	Last Commit	Description

Name	Stars	Last Commit	Description
Bevy	Stars 31k	last commit today	A refreshingly simple data-driven game engine built in Rust.
rafx	Stars 567	last commit June 2023	Multi-backend renderer built on top of distill. The objective of this repo is to build a scalable, flexible, data driven renderer.
three-d	Stars 1.1k	last commit last monday	2D/3D renderer - makes it simple to draw stuff across platforms (including web).
wgpu-rust-renderer	Stars 134	last commit october 2022	A tiny WebGPU renderer written in Rust.
contrast_renderer	Stars 61	last commit january	Contrast is a WebGPU based 2D render engine written in Rust.

[Load earlier comments...](#)

spurlockat commented on Mar 1, 2018

p5.js?

ChemBioScripting commented on Aug 2, 2018

Also [X3DOM](#) is missing

roipoussiere commented on Oct 16, 2018

Note that lightGL and sceneJS are not longer maintained.

Sources:

- [for lightGL](#);
- [for sceneJS](#).

roipoussiere commented on Oct 16, 2018

Also it could be useful to add the library minified size. If interested, I started a work here:

- [lightGL](#): 30ko;
- [Babylon](#): 2.2mo;
- [three.js](#): 543ko
- [scene.js](#): 708ko;
- [twgl](#): 140ko
- [regl](#): 507ko
- [clayGL](#): 494ko
- [fourJS](#): 183ko
- [mini-webGL](#): 93ko
- [GLOW](#): 77ko
- [helixJS](#): 629ko
- [oGL](#): 6ko (core) / 17ko (total);
- [Zen3D](#): 181ko

carlsmith commented on Oct 24, 2018

GLOW is dead. Its homepage (the main link on the page this page links to) is for sale.

akella commented on Feb 7, 2019

Add this one =) <https://www.martin-laxenaire.fr/libs/curtainsjs/> nice for fullscreen animations with glsl

munrocket commented on Sep 23, 2019

[Potree](#) - point cloud visualization

ghost commented on Nov 28, 2019 • edited by ghost ▾

[RaptorEngine](#) - An browser based WebGL Engine (With node based material editor) is missing.

Node based Material Editor: <https://www.youtube.com/watch?v=l7oOLKeDGcs> , <https://www.youtube.com/watch?v=GjqOE0suK14>

Github: <https://github.com/kajdijkstra/RaptorEngine>

fkromer commented on Jan 13, 2020 • edited ▾

There is [plotly.js](#) (charting library) which supports WebGL for scatter plots (`scattergl`): <https://plot.ly/javascript/webgl-vs-svg/>

s0kil commented on Apr 3, 2020

Here is also <https://two.js.org/>

nicolasgoudard commented on Jul 3, 2020

Hello.

I use [CreateJS](#). I had chosen it for high levels function that look like Java AWT (I converted some old project from Java to JS), and this project was supported by Adobe and Microsoft. But there are not updates since 2 or 3 years. Why ??

What is the best library nowadays ? I see [Konva](#) but now I am not sure, I want to find a famous project supported buy a large communauty.

Please help me !

a-x- commented on Sep 30, 2020

Are you know any rich good UI Components Library based on WebGL?

I found only declined one: [DreemGL](#)

kurtansom commented on Nov 6, 2020

<https://kitware.github.io/vtk-js/docs/index.html>

random-yang commented on Nov 9, 2020

data viz: echarts?

arathore-gaming commented on Dec 24, 2020

What about COCOS? It supports 3D as well now

langolf commented on Mar 17, 2021

<https://ptsjs.org/>

niiloArction commented on May 27, 2021

Hi, please do include LightningChart JS.

It is a data visualization library that utilizes WebGL, similar like already mentioned ECharts, except that it heavily focuses real-time data inputs and large data sets.

abasilak commented on Sep 10, 2021

Hi, you can also include WebRays - a GPU-accelerated ray intersection engine for the World Wide Web. It aims to offer a flexible and easy-to-use programming interface for robust and high-performance ray intersection tests on modern browsers.

<https://github.com/phasmatic3d/webrays>

A gentle introduction to the library (design considerations, best practices, and usage examples for several ray tracing tasks) is recently published at Nvidia's Ray Tracing Gems 2 book: https://link.springer.com/chapter/10.1007/978-1-4842-7185-8_18

mitsukuri commented on Aug 6, 2022 • edited ▾

Hello @dmnsn7!

I took a liberty and formatted your list as table, with entries sorted alphabetically and augmented with stars and last commit badges, like this:

name	stars	last commit	description
PixiJS	Stars 42k	last commit february	Super fast HTML 5 2D rendering engine that uses WebGL with canvas fallback

Feel free to update your gist from mine if you find any added value in it, I'll delete mine if you do so.

[deleted]

dmnsn7 commented on Aug 13, 2022

Author

@mitsukuri thanks for your contribution, I have updated with slight modification.

mitsukuri commented on Aug 13, 2022

@dmnsn7 My pleasure!

mitsukuri commented on Aug 13, 2022

Found a typo in GLAM's description: GL A nd M arkup -> GL And Markup

tomerry commented on Sep 20, 2022

mapboxgl

wardenfeng commented on Jan 27, 2023 • edited ▾

@dmnsn7

| [feng3d](<https://github.com/feng3d-labs/feng3d>) | !([GitHub Repo stars])
| (<https://img.shields.io/github/stars/feng3d-labs/feng3d>) | !([GitHub last commit])
| (<https://img.shields.io/github/last-commit/feng3d-labs/feng3d>) | TypeScript 3D
| engine built on WebGL. |

| [feng3d](#) |  Stars 50 | last commit january 2023 | TypeScript 3D engine built on WebGL. |

geloescht commented on Jun 17, 2023

What about Needle Engine (<https://needle.tools/>)? It is based on three.js and allows exporting out of Unity and Blender with Typescript support based on Unity's component system and live preview in the browser.

jay19240 commented on Jun 29, 2023

@dmnsn7

| [Haiku](<https://github.com/jay19240/Haiku>) | !([GitHub Repo stars])
| (<https://img.shields.io/github/stars/jay19240/Haiku>) | !([GitHub last commit])
| (<https://img.shields.io/github/last-commit/jay19240/Haiku>) | 2D & 3D WebGPU game
| engine written in TypeScript |

| [Haiku](#) | stars repo not found | last commit repo not found | 2D & 3D WebGPU game engine written in
TypeScript |

NathanSweet commented on Jul 2, 2023

<http://libgdx.com>

Spine at <http://esotericsoftware.com/>

trusktr commented on Jan 2

I forked this to <https://github.com/trusktr/WebGL-WebGPU-frameworks-libraries> to make it possible for anyone to contribute via pull request.

dmnsn commented on Jan 4

Author

I forked this to <https://github.com/trusktr/WebGL-WebGPU-frameworks-libraries> to make it possible for anyone to contribute via pull request.

I am still fine with comments contributions here. It is a list 🍄

If you have any new framework/lib that turns code into pixels with web tech to submit, I'd be happy to review and include them here if they match the premise.

trusktr commented 3 weeks ago • edited ▾

@**dmnsn** would you consider migrating to a repo? PRs are better than comments for this use case I think