AR Website Development Tool Research & Analysis

This report is to answer the sub-question "What technologies should be used to develop the AR website?"

The purpose is to choose the most suitable tool for the project by analysing the advantages and disadvantages of different development tools.

| Commercial SDKs / Platforms 8 th Wall: https://www.8thwall.com/ | 2 2 |
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| Blippar: https://support.blippar.com/hc/en-us/articles/4406622267283-Introduction ZapWorks: https://zap.works/ | 4 5 |
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| AR.js: https://ar-js-org.github.io/AR.js-Docs/ | 6 |
| MindAR.js: https://hiukim.github.io/mind-ar-js-doc/ | 6 |
| Comparison and Analysis | 7 |

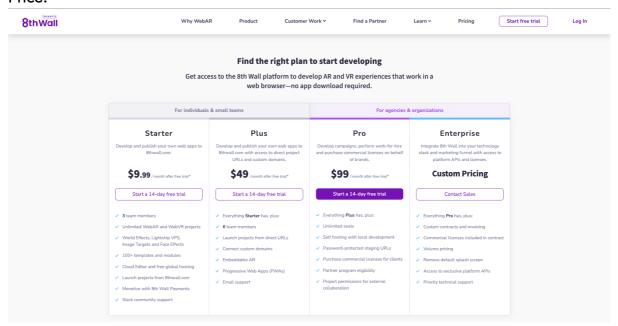
Commercial SDKs / Platforms

8th Wall: https://www.8thwall.com/

Features:

- 1. AR Engine
 - World effects
 - Lightship VPS (Visual Positioning System) for web
 (https://nianticlabs.com/news/lightship-vps-web/?hl=en#:~:text=Lightship%20VPS%20(visual%20positioning%20system,centimeter%2Dlevel%20accuracy%20and%20precision)
 - Image targets
 - Face effects
 - Modular framework
- 2. Cloud Editor + Built-in hosting

Price:



XR+: https://xr.plus/

Features:

- Full cloud platform so nothing to download for users.
- Collaborative studio for one to multiple users and accounts.
- $\bullet \quad \mbox{No coding needed to create in a few minutes basic to very advanced $$XR$ experiences.$
- webAR & webVR means nothing to download for end users.
- Multimedia Assets can be texts, images, audios, videos, static and animated 3D models.
- Trackers & Anchors can be done on images, objects, horizontal and vertical surfaces, faces, hands, feet.
 - Triggers can generate multiple actions like animating 3D models,
- playing videos, visiting a website, taking a selfie, sharing on social networks...
 - Promotion tools allow to reach audiences through offline channels with
- QR codes, and online channels with a copy / paste embed code (like Youtube videos).
- Players customize interactions and brand awareness.
- Geolocation can be done on maps to let users access only if they are in a specific area (like Pokemon Go).
- Advanced analytics to measure and optimize in real time engagement, time spent...

Price:

If you are a non-profit organization, a training institution or an artist, please contact us to find out about our solutions adapted to your needs.

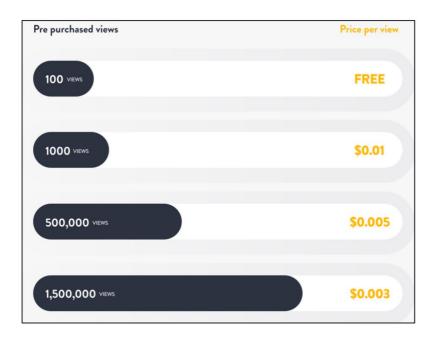
Contact us



Features:

- A-Frame, PlayCanvas and Babylon.js support
- Unity WebAR SDK package support. Publish Unity-built projects, along with interactivity, 3D models, animations, and particle effects to web AR with this integration
- No Blippar Branding
- Complete Freedom for Local Development
- SDK is customizable
- Supports Marker/Image Tracking
- Free trial version provides 100 free views.
- Create Unlimited AR Projects using our SDK License
- 100% control on License Management
- Complete Documentation
- 24*7 Support Multiple Channel user-support

Price:



ZapWorks: https://zap.works/

Features:

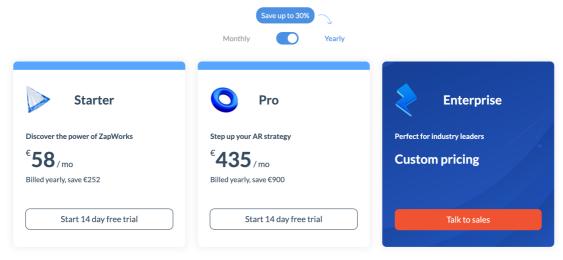
Create best-in-class content for the mobile web



...and many more!

Price:

ZapWorks plans and add-ons pricing



Additional plans for education and hobby available. See plans.

Open-Source Libraries

AR.js: https://ar-js-org.github.io/AR.js-Docs/

AR.js is a lightweight library for Augmented Reality on the Web, which includes features like Image Tracking, Location based AR and Marker tracking. This project has been created by **@jeromeetienne** and it is now maintained by **@nicolocarpignoli** and the **AR.js Org Community**.

MindAR.js: https://hiukim.github.io/mind-ar-js-doc/

MindAR is an opensource web augmented reality library. It supports Image Tracking and Face Tracking.

MindAR started with AFRAME integration, so majority of these documentations are written for AFRAME integration.

Comparison and Analysis

With the development of XR technology and the growing interest in it, there are now a large number of development SDKs (software development kit) / platforms on the market. Different tools have different focuses, such as software development, web development, no-code development platform and so on. However, these tools are expensive and can vary in price depending on different requirements. There are also limitations on the functionality of the final product if third party development tools are used.

AR.JS and MindAR.JS are opensource JavaScript libraries and they are perfect for AR website development. These libraries are easy to use and integration AFRAME and Three.JS so there is a lot of flexibility.

In this case, both AR.JS and MindAR.JS are suitable for this project.