

# X3DOM: INSTANT 3D THE HTML5 WAY

## Provided backends:

- **Native:** directly supported by web browser;
- **SAI-plugin-in:** utilizes an X3D SAI plug-in with minimal interface changes for rendering;
- **WebGL:** creates an JS scene-graph and renders with WebGL without any plug-in;
- **Mobile:** provides a specific App, which integrates an X3DOM layer.

## Status

The existing architecture does not only support the W3C »Declarative 3D« community group, but also provides a solution for web application developers today. In contrast to most other approaches, our framework integrates 3D content into the web without the need to develop new concepts by utilizing today's standards. The design and architecture brings declarative 3D to the mass market. The project provides a large number of examples and show-cases today and there are already numerous third-party applications, which utilize the framework to build new solutions in various fields. This includes applications in the areas of visual analytics, 3D-userinterfaces, web-shops, cultural heritage and scientific visualization.

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### Further Information:

- Projekt Page:  
<http://www.x3dom.org>
- W3C Community Group  
<http://www.w3.org/community/declarative3d/>

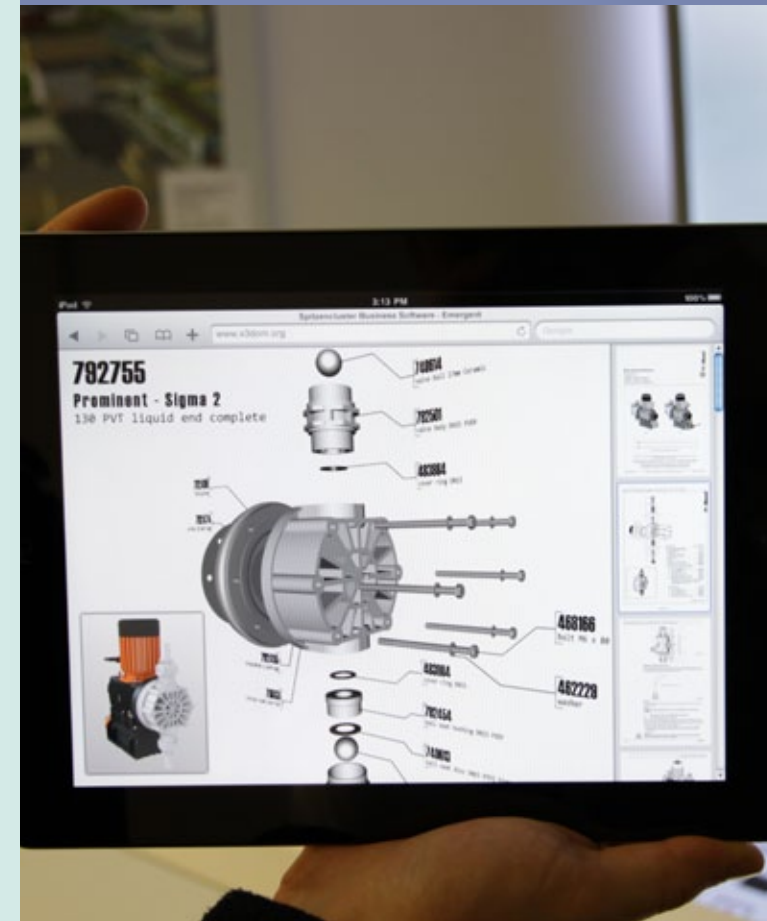
## CONTACT:

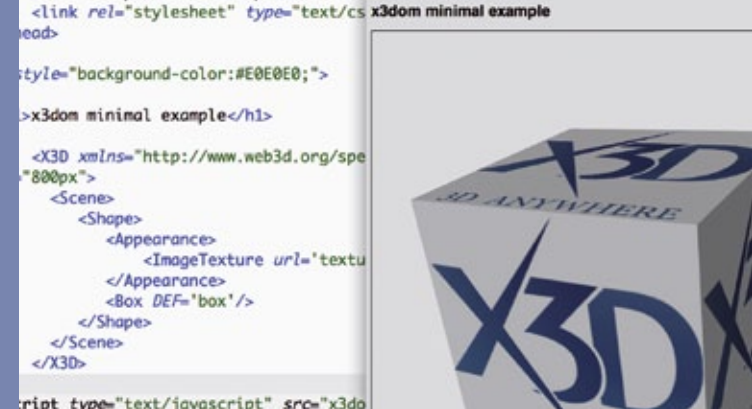
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# X3DOM: INSTANT 3D THE HTML5 WAY

There have been a wide number of approaches over the past 15 years to integrate 3D technologies in web browsers, but most of them failed since they were not sufficiently integrated into today's web technologies.

X3DOM is a new approach and integration architecture, which tries to overcome this limitation by making declarative 3D a first class citizen (like text, video, and sound) of every web browser. The model supports the integration of X3D content directly into the HTML DOM tree and follows thereby the current HTML specification. (12.2: Embedding 3D imagery into XHTML documents is the domain of X3D)

The architecture utilizes existing standards and web technologies and tries to reuse as much as possible from the existing browser / user agent architecture. It allows web developers to build dynamic 3D content using DHTML, AJAX and existing JS-libraries like jQuery.



## Supported Web3D and W3C Standards

- **X3D** is an ISO standard for dynamic and interactive 3D content;
- **XML** is the W3C conformant way to encode documents in machine-readable form;
- **DOM** is a language-independent convention for representing and interacting with objects in HTML;
- **HTML-Events** provide the ability to let events trigger actions in a web browser;
- **CSS** is a style-sheet language used to describe the presentation semantics;
- **JavaScript** is the client-side scripting language standard that is typically used in web environments.

## Open-source Runtime

The available open-source x3dom.org architecture provides a concrete implementation for the proposed model. The outstanding feature of the architecture is to provide a single declarative interface to application developers and at the same time it supports various runtime-backends. This system does not include a single implementation strategy for the runtime and rendering module, but instead supports different methods transparently.