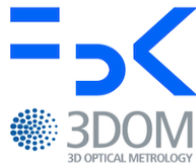




3D Big Data for the Data Space for Cultural Heritage

Tools Documentation



Universidade de Vigo

3D BigDataSpace Tools

PCSS Viewer

The **PCSS Viewer** is a web-based viewer designed to display, explore, and interact with 3D objects. It enables users to easily inspect models from different perspectives, view structural details, and annotate or measure the models. The tool is written in **React** and built upon the **Three.js** library, ensuring smooth integration with other web applications and repositories.



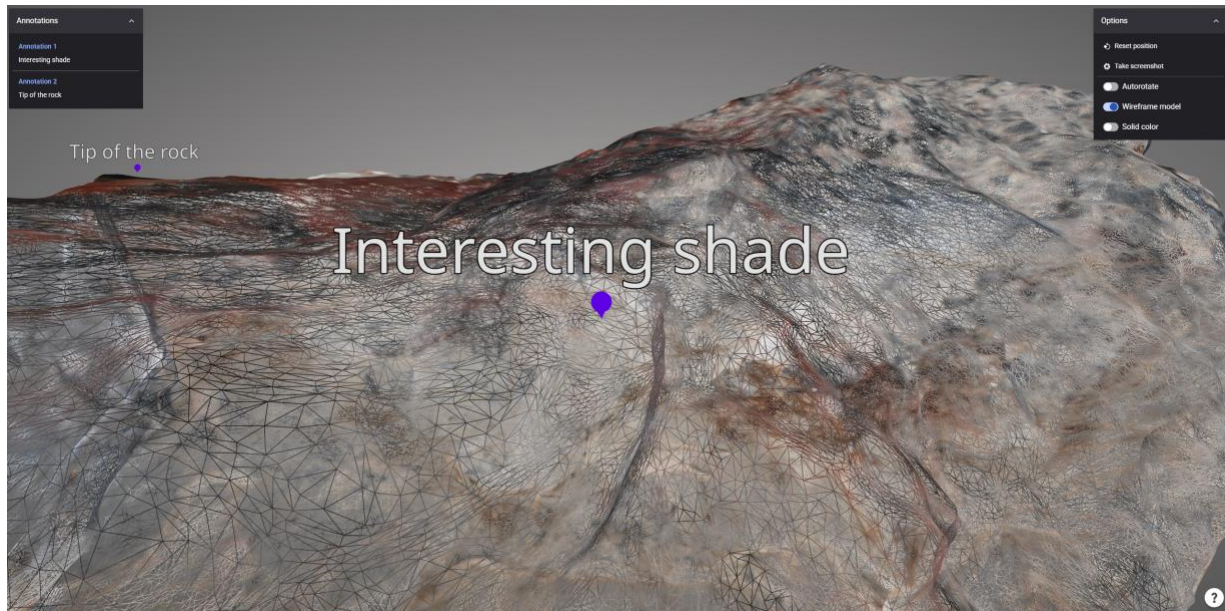
Main features:

- Interactive 3D viewing: rotate and inspect the model from any angle
- Screenshot capture: save images of the model in specific positions.
- Mesh visualization: display or hide the object's mesh to inspect its structure.
- Texture customization: change texture colors.
- Measurement tools: measure dimensions directly on the model.
- Annotations: view metadata or notes associated with the object.
- Embeddable: can be embedded in other web applications or platforms.
- Object placement: mesh overlay to facilitate accurate positioning.
- User manual: available for guidance on the main functions.

* The PCSS Viewer is currently under active development, and additional functionalities may be introduced in the coming months based on identified needs.

Supported file formats: .obj and .gltb formats currently supported.

[Additional video information here.](#)



4D Viewer – University of Jena

Organize a rephotography contest: The 4D City application allows to upload historic photographs and invite citizens to rephotograph these historical images. In previous contests city inhabitants of Jena and Schleiz got invited by a media campaign, with the best fitting, most beautiful and largest number of rephotographies awarded.

Rephoto contests can be setup via a graphical user interface in the 4D city application.

Supported file formats: .jpg for images.

<https://www.timemachine.eu/jena-time-machine-expanding-data-horizons/>



An exhibition to explore your city heritage: The 4D Browser is capable to show how a city evolved over time and e.g. showing placemarks for the most relevant places in a city in a specific era. Users can click those placemarks and open a website explaining this specific location. This format was used for an exhibition about waterways in Amsterdam and shown in the Arcam museum.

City scenes can be created from 3D models, points of interest and photographs via the 4D Browser graphical user interface.

Supported file formats: .obj and .glb formats currently supported for 3D content, .jpg for images, links could refer to external websites.

See: <https://www.amsterdamtimemachine.nl/nl/living-with-water-in-amsterdam-a-pilot-proof-of-concept-of-the-amsterdam-time-machine/>



A virtually guided citywalk: With the 4D City application you can be virtually guided to places in your city and therefore learn about their history, but also gain a visual impression e.g. about no more extant buildings or artworks. For the city of Dresden, a literary citytour has been developed as a student work, where visitors are guided to places where novels did play and listen to the audiofiles, while visually experiencing these already past places.

The technical setup included to define and link points of interest in the 4D Browser graphical user interface, with each point linking to a website.

Supported file formats: **.obj** and **.gltf** formats currently supported for 3D content, **.mp3** for audio, links could refer to external websites.

For additional learning materials on the 4D Browser see the dedicated online course: https://europeana.moocit.fr/courses/course-v1:europeana+4DB+2025_Q2/course/

Room XR Viewer

The Room XR Viewer provides a web-based environment for viewing and interacting with 3D models, including an option to experience them in Augmented Reality (AR). It enables users to explore three-dimensional content directly in their browser, without requiring additional software installation.

Main features:

- 3D model viewing: visualize models directly in the browser, with full rotation, zoom, and navigation controls.
- Augmented Reality (AR) mode: view 3D models in real-world space through mobile devices using a QR code or a "View in AR" option.
- Cross-platform access: accessible from desktop and mobile browsers; AR features are available on Android and iOS devices.
- QR-code integration: desktop users can activate AR mode by scanning a QR code displayed on the screen.

Supported file formats: .glb for Android and Desktop devices; .usdz for iOS Apple devices.

Example: Using this QR code (Android devices only), you can load the “Amsterdam – Synagogue” 3D model on your mobile device. After scanning, select the “View in AR” icon to project the model into your real environment. Please note that loading time may vary depending on your internet connection. iOS Apple devices will be supported as the underlying databases will have .usdz 3D models.

