VISUALIZE

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OVERVIEW

ODA Visualize SDK is a common purpose rendering engine. It means that through this SDK can be visualized different kinds of the data. It can be 2D models like massive maps, it can be different 3D models from Architecture or Engineering world. Also it can be more specific data like massive meshing models from Finite Elements packages or huge point cloud data.

Visualize SDK provides an efficient and convenient high-level API that significantly speeds up the application development process. It's also possible to use only the kernel part of Visualize, as is done in Drawings, IFC and BimRv.

ODA Visualize is a cross-platform SDK which is available at Windows, Mac and Linux desktop platforms as far as on mobile IOS and Android platforms. Using of the SWIG technology allows us to generate SWIG wrappers for our API and give ability to use Visualize SDK via C#. ODA's Web visualization solution uses the same code base that simplifies the Cloud application development.

When we speak about engineering graphics, nowadays the rendering engine should provide quite a wide range of additional functionality other than just a visualization: its selection, sectioning, collision detection, measurements, units support, markups. And ODA Visualize SDK has all such abilities.

ODA Visualize SDK has rich import possibilities with access to native properties, and abilities of PDF export and publishing. Inside visualize SDK are implemented a few techniques for the performance optimization as far as multi-threaded support in a few areas.

A special attention is paid to the work with huge files. For this purpose is implemented an ability of partial viewing for working in limited memory conditions which includes unloading of the invisible objects to the disk.

ODA Visualize is a part of the standard set of components offered to all ODA members. If you are already an ODA member, there is no additional cost to use ODA Visualize SDK.

WHAT'S NEW 2022

- “Fast object transform” functionality that allows tens of thousands of objects to be moved in real time. Fast object transform is used by our Animation and Explode features.
- New cube environment mapping that can be used to create realistic backgrounds such as a sky box
- Enhancing anti-aliasing with Subpixel morphological anti-aliasing, or SMAA, supports reducing blurriness for one-pixel lines
- Metal support production state. Ability to use the Metal device was added to the OpenIFCViewer on Mac
- All our Qt examples were upgraded to Qt version 6 that gives the ability to provide a more efficient support to Apple M1 processors based on ARM architecture
- "Reflection plane" feature that provides realistic reflections onto planar surfaces inside a graphics scene
- An ability to take into account GPU sections during the selection process. It allows you to select data which was behind an object which was cut by section plane
- Increasing performance and decreasing memory requirements for huge RCS point clouds
- Streaming support for RCS data which is critical for Web visualization
- Enhancements for the ODA Visualize file format –VSFX, which include partial loading, partial viewing, object unloading and streaming. All this functionality allows it to support huge 2D/3D models