5th International Conference and Expo on
Computer Graphics & Animation
September 26-27, 2018 | Montreal, Canada

Real-time processing of huge 3D data in web browsers

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Real-time 3D mesh editing is a very computational heavy task in terms of both processing speed and memory consumption, especially if we speak about scanned geometry consisting of tens or even hundreds of millions of polygons. In order to move, delete and add vertices complex optimizing structures become a vital requirement. Not so long ago it has become possible to manipulate such data on desktop computers and this talk seeks to expand these boundaries even further and proposes approaches to editing such data in web browsers which have made significant steps to improve stability and performance in recent years. The proposed methods combine the use of modern frontend API, server-side data preparation and computationally efficient algorithms for mesh processing.

Biography

Evgeny Rodygin is a 3D graphics developer in RnD department at Artec3D Company. His primary interests are 3D graphics, 3D Engines Architecture and Artificial Intelligence. For almost five years, he was developing a complex WebGL environment called Blend4Web and now he works on a web-based geometry-editing application for 3D scanned data.

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Roman Sementsov is 3D graphics developer in RnD department at Artec3D. He has a special interest in digital mesh processing algorithms. Roman also has experience in writing complex shaders, rendering engines, and lighting systems.

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