POSSIBILITIES OF USING WEB-TECHNOLOGIES FOR VISUALIZATION OF DATA OF ACTIVE METHODS OF REMOTE SENSING

Aleksey A. Kolesnikov
Siberian State University of Geosystems and Technologies, 10, Plakhotnogo St., Novosibirsk, 630108, Russia, Ph. D., Associate Professor, Department of Cartography and Geoinformatics, phone: (913)725-09-28, e-mail: alexeykw@mail.ru

Denis V. Grishchenko
Siberian State University of Geosystems and Technologies, 10, Plakhotnogo St., Novosibirsk, 630108, Russia, Ph. D. Student, Department of Cartography and Geoinformatics, phone: (383)361-06-35, e-mail: mr_divis@mail.ru

An increasing number of types of spatial data is possible to display and operate using only technical means of web services and a standard browser, without the need to install GIS or CAD systems. One of these types of data is data obtained with using active methods of remote sensing (as a rule, they are point clouds), full-fledged work with which 3–4 years ago was possible only on high-performance computers and specialized software. The existing web technologies allow not only displaying point clouds, but also interactively interacting with them - to perform measurements, customize display styles, combine with spatial data of other types. The purpose of the article is to form criteria and analyze the performance of software tools for creating web services for visualizing data obtained with using active methods of remote sensing. For practical testing of the selected software and analysis according to the formulated system of criteria groups, several files containing point clouds from open sources were used. The research was carried out with using the software libraries Three.js, Deck.gl, Plas.io, Potree, CesiumJS and Blend4Web. Based on the testing results, summary tables of performance and functionality were formed. The obtained results demonstrate that in terms of performance, visualization tools, basic functions for designing and analyzing point clouds, modern web services are not inferior to specialized desktop software.

Keywords: visualization, spatial data, point clouds, web service, octree, gLTF, JavaScript

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