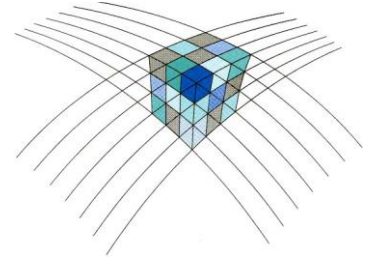


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Netherlands Center for Geodesy and Geo-informatics

Abstract submission for the NCG Symposium 2020

Abstract submission deadline: **14 September 2020**

Please submit your abstract EasyChair

<https://easychair.org/conferences/?conf=ncg2020>

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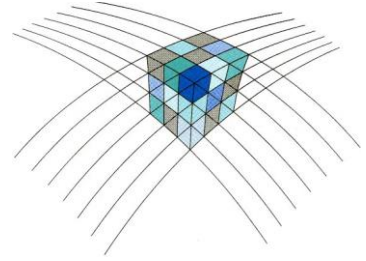
Presentation title: Visualization of Point Cloud Models in Mobile Augmented Reality Using Continuous Level of Detail Method

Demo: no

Abstract (~100 words and optionally 1-2 figures):

Point clouds have become one of the most popular sources of data in geospatial fields due to their availability and flexibility. However, because of the large amount of data and the limited resources of mobile devices, the use of point clouds in mobile Augmented Reality applications is still quite limited. Many current mobile AR applications of point clouds lack fluent interactions with users. In our paper, a cLoD (continuous level-of-detail) method is introduced to filter the number of points to be rendered considerably, together with an adaptive point size rendering strategy, thus improve the rendering performance and remove visual artifacts of mobile AR point cloud applications. Our method uses a cLoD model that has an ideal distribution over LoDs, with which can remove unnecessary points without sudden changes in density as present in the commonly used discrete level-of-detail approaches. Besides, camera position, orientation and distance from the camera to point cloud model is taken into consideration as well. With our method, good interactive visualization of point clouds can be realized in the mobile AR environment, with both nice visual quality and proper resource consumption.

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