Development of a Methodology for CRP and 3D-Visualization using RS Images from Mobile Phone Camera

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Abstract: Most 3D models are generated from several images of the object captured at different positions of the metric camera used. The generation usually employs the use of photogrammetric software capable of determining the position of the camera (at the time of image capture) to be able to process acquired images into 3D. This paper explores an alternative method using the concept of vanishing point which does not require any orientation parameters; rather, it only requires a good-quality image of the object for 3D processing. Our team sought to (a) develop a methodology for 3D visualization using non–metric camera and available open source application; and (b) assess the accuracy of a 3D model generated from such methodology. Assessment of accuracy indicates that errors in measurement of dimensions along x, y and z axis increase as the distance of the image capture from the object increases. It also indicates that lighting condition, the object's sight condition, and different perspectives from which the image was captured affects the accuracy of the 3D model.

Keywords : Digital Photogrammetry, Mobile Camera, Geovisualization