UNIVERSITI TEKNOLOGI MARA

VOLUME DETERMINATION BY SAME CAMERA RESOLUTION USING CLOSE RANGE PHOTOGRAMMETRY (CRP) TECHNIQUE

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Thesis submitted in fulfillment
of the requirements for the degree of
Bachelor Science of Geomatics

Faculty of Architecture, Planning and Surveying

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AUTHOR'S DECLARATION

I declare that the work in this thesis/dissertation was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

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ABSTRACT

Nowadays, volume calculations are been used in many engineering studies such as road project, mining project, geological works and also building applications. In volume calculations, classic method calculation are used because of lack of adequate technical knowledge or insufficiency of software and hardware to determine the volume calculations. Generally, volume calculation completed with classic surveying method sometimes make mistake in calculating (Yanalak 2012). Thus, photogrammetry by using Close Range Photogrammetry (CRP) technique being use in determination of volume calculation. This research focused on volume of excavation profile that using software (Photomodeller Scanner) and hardware (Nikon camera and Vivo camera) to replace of the classic method. This research aim is to investigate volume excavation by high camera resolution by using Close Range Photogrammetry technique. It specifically studies on soil model which is model of excavation profile. This research is based on data obtained from images captured using two camera with high resolution. Each of camera were captured the images from soil model preparation which the actual volume (cut and fill) from the model has been measure using beaker. The data was processing using Photomodeller Scanner software to identify volume and also to analyse volume determination quantitatively from the effect of camera captured. This study's volume calculation for volume excavation profile using Close Range Photogrammetry technique was able to determine the volume. This photogrammetric method obtained demonstrate the effectiveness and capability of low cost system for 3dimensional modelling and measurement of an objects.

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