

UNIVERSITI TEKNOLOGI MARA

**ACCURACY ASSESSMENT OF
AGISOFT PHOTOSCAN AND
PIX4D MAPPER IN ORTHOPHOTO
PRODUCTION**

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Disertation submitted in fulfillment
of the requirements for the degree of
Bachelor of Surveying Science and Geomatics

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AUTHOR'S DECLARATION

I declare that the work in this 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

In Malaysia, Unmanned Aerial Vehicle (UAV) nowadays is successfully to get position in aerial image survey compared than traditional photogrammetry and Light Detection and Ranging (LIDAR) which more cheap and effective to 3 dimension-modelling. The private company survey (Licensed Surveyor) and Department of Surveying and Mapping (DSMM) have taken the necessary step to used UAV platform in photogrammetry survey work. It used the difference software to processing the UAV images. From that, the important choice is which the best photogrammetry software that give highest accuracy from UAV images based on the guideline from Accuracy Standard for Photogrammetric and Remote Sensing (ASPRS). In this research will compare two different software packages that have difference year, price and company published. The software packages used are Agisoft PhotoScan version 1.3.1 and Pix4D Mapper version 1.3.67. This research will process the UAV images using the software. Then, it compared the accuracy results of the different software packages for root mean square error (RMSE), processing phases and distance measurement. While Pix4D Mapper and Agisoft PhotoScan software is the “user-friendliest” in workflow for processing phase and new version software, it’s still have difference accuracy result. The processing phases that involved is photo alignment, geo-referencing, dance cloud mesh, texture and orthomosaic. It not in Agisoft PhotoScan and Pix4D Mapper software only, even to another new published of photogrammetry software. Besides that, it will investigate the orthophoto and the advantages/limitation of software in accuracy requirement from analysis result for expected outcome from this research. Finally, it will determine the best software in accuracy specification that can use in UAV images processing method.

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