

SHAROANAS SHAPIEE

BACHELOR OF SURVEYING SCIENCE AND GEOMATICS (HONOURS)

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QUALITY ASSESSMENT OF 3D MODEL GENERATED FROM
DIFFERENT IMAGE OVERLAP

SHAROANAS SHAPIEE

2021813704



SCHOOL OF GEOMATICS SCIENCE AND NATURAL RESOURCES
COLLEGE OF BUILT ENVIRONMENT
UNIVERSITI TEKNOLOGI MARA MALAYSIA

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FROM DIFFERENT IMAGE OVERLAP**

SHAROANAS SHAPIEE

2021813704



**Thesis submitted to the Universiti Teknologi MARA Malaysia
in partial fulfilment for the award of the degree of the
Bachelor of Surveying Science and Geomatics (Honours)**

AUGUST 2023

DECLARATION

I declare that the work on this project/dissertation was carried out in accordance with the regulations of Universiti Teknologi MARA (UiTM). This project/dissertation is original and it is the result of my work, unless otherwise indicated or acknowledged as referenced work.

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Name of Student : Sharoanas Shapiee
Student's ID No : 2021813704
Project/Dissertation Title : Quality Assessment of 3D Model Generated
from Different Image Overlap
Signature and Date : 9/8/2023

Approved by:

I certify that I have examined the student's work and found that they are in accordance with the rules and regulations of the School and University and fulfils the requirements for the award of the degree of Bachelor of Surveying Science and Geomatics (Honours).

Name of Supervisor : Dr Ismail Bin Ma'arof
Signature and Date :

ABSTRACT

This research aims to examine the influence of various degrees of overlap on the accuracy of 3D models generated using close-range photogrammetry for documenting historical buildings. The accuracy of 3D models plays a pivotal role in the documentation and preservation of historical structures. Thus, comprehending the influence of overlap on the accuracy of 3D models is critical for producing high-quality documentation of historical buildings using close-range photogrammetry. This study's objective is to assess the effect of different degrees of overlap on the accuracy of 3D models generated using close-range photogrammetry for documenting historical buildings. The authors conducted a study to investigate the impact of different degrees of overlap on the accuracy of 3D models. They utilized close-range photogrammetry to generate 3D models of a historical building with varying degrees of overlap. The accuracy of the resulting 3D models was evaluated using ground truth data. The research findings suggest that higher degrees of overlap lead to more accurate and high-quality 3D models. The optimal degree of overlap was identified to be 80% for achieving the desired level of accuracy. In conclusion, the study highlights the importance of higher degrees of overlap for producing accurate and high-quality 3D models of historical buildings using close-range photogrammetry. The paper provides critical insights into the significance of overlap and its implications for future applications of close-range photogrammetry in documenting and preserving historical buildings.

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