ANIS ATHIRAH ZAMINUDIN BACHELOR OF SURVEYING SCIENCE AND GEOMATICS (HONOURS) JULY 2024

COMPARISON COORDINATES ON GOOGLE MAP AND BY LOT PARCEL IN ARAU, PERLIS

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SCHOOL OF GEOMATICS SCIENCE AND NATURAL RESOURCES
COLLEGE OF BUILT ENVIRONMENT
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Thesis submitted to the Universiti Teknologi MARA Malaysia
in partial fulfilment for the award of the degree of the
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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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ABSTRACT

It is important to compare and analyze alternative geocoding techniques since the requirement for exact location data in a variety of areas, including emergency response, urban planning, and geographic information systems (GIS), keeps developing. The precision of cadastral maps, once aligned with topographic mapping standards, has seen advancements over time. However, due to the fragmented compilation process, the accuracy of these maps can vary significantly across large regions. The study aimed to compare the positions of addresses identified on Google Maps with those derived from lot parcel data in Arau, Perlis. The objectives were to create a comprehensive database for geocoded addresses and to evaluate the accuracy of these geocoded addresses against their corresponding positions on Google Maps. The problem statement highlighted that while cadastral maps had historically maintained high accuracy, improvements over time and a fragmented compilation process led to significant variations in accuracy across large regions. The methodology involved collecting geocoded addresses and lot parcel data, developing a database, and conducting a comparative analysis using spatial statistical methods to assess discrepancies and accuracy levels between the two datasets. The results indicated varying degrees of accuracy between the geocoded addresses and the Google Map positions, revealing areas where cadastral map improvements were necessary. Findings for this study were, there were 95% matched address, 5% tied and 0% unmatched. The study concluded that, although Google Maps provided a reliable source for address positioning, there were notable discrepancies when compared with lot parcel data. These findings underscored the need for continuous updates and integration of geospatial data to enhance the accuracy and reliability of cadastral maps, ultimately aiding in better urban planning and land management in Arau, Perlis.

Keywords: Geocoding, Cadastral maps, Address position, Google Maps, Lot parcel, Geocoded addresses, Accuracy evaluation

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