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3D city modeling using multirotor drone for city heritage conservation (Article) (Open Access)

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Abstract

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This paper aims to construct a 3D Malay city based on data collected from DJI Phantom 3, a multi rotor drone, and further analyse the urban form of traditional Malay cities using 3 main urban form components which are buildings, land use and streets. Kota Bharu was selected as the study area and the flight mission produced 793 images which were processed in Agisoft and further constructed 3D GIS in ArcGIS 10.2. The analysis of urban form shows that the old traditional development in north-north west still maintain the identity of Malay urban form, of the organic pattern of streets, preserve Malay architectures and the type of land use for traditional settlement. This finding shows that, Malay values in cities and architecture still remain and it must be preserved from any development and it can be a benchmark on adapting technologies and shifting methods in conservation and safeguarding our heritage cities in Malaysia.

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