UNIVERSITI TEKNOLOGI MARA

DETERMINATION OF A CELL TOWER SITE LOCATION TO BE ESTABLISHED IN PERLIS BY USING SPATIAL ANALYST

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requirements for the degree of

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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.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Undergraduate, 'Universiti Teknologi MARA', regulating the conduct of my study and research.

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ABSTRACT

The advent of wireless networking is changing our lives drastically. Mobile telecommunications emerged as a technical breakthrough enabling access to personal and other resources, computers, computing, and connectivity, through effortless plug-in and play, at any location and at any time. The development of wireless mobile networks also requires transmission availability, collection of routing systems, and the best site for cells towers. This research aims to determine the best cell tower site by using Geographic Information System (GIS) spatial analyst as a tool. The application of the distribution could be achieved by applying the Shuttle Radar Topography Mission (SRTM) to the picture of the region that has to be covered by three other parameters which is the location of existing tower, road network and towns. This research applied the technique of spatial association rules on the parameters to select the best location for the cell tower placement. From that the plan would attempt to reduce the number of towers built, make the position of the tower feasible, and provide maximum coverage of the area. The result of this study is a weighted map that shows five different suitability for a new cell towers sites around the study area. This map can be used by any Telecommunication company in Malaysia such as Celcom, Digi, Maxis and etc to locate the most suitable location for a new telecommunication tower.

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