Digitization of Polygon Objects in a Raster Map based on the Direction

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Abstract

This article represents the digitization of polygon objects from a black and white raster map. Based on the selection of direction mouse click operation is perform on the boundary of the polygon object or closer to the boundary. If the initial click point is not black then eight connected points of the click point are compared to obtain the nearest black boundary point and it is considered as starting point (i.e. sp point). After obtained the starting point (sp), eight connected points of the starting point (SP) are calculated and the appropriate black point from the eight connected points is selected according to the rules of the direction and this process is repeated until it reached to the starting point (SP). This proposed technique requires less computation with minimal memory requirement and boundary points are obtained in a single click. The boundary points are minimized approximately 52% through the computation of minimal set of boundary points of a segments. Comparisons with existing reveals that the proposed technique is outperform than existing.

References
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GIS, raster map, vector map, digitization, clockwise and anticlockwise direction.