Three-Dimensional High Reconstruction Using Geographic Information System

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Abstract: The main objective of this work is to reconstruct three-dimensional (3-D) for highway between republic of Iraq and Kingdom of Saudi Arabia. In doing so, integration between Digital Elevation Model (DEM), Digital Terrain Model (DTM) data and sequences of LANDSAT TM is implemented. The study shows that three-dimensional was reconstructed using Digital Elevation Model (DEM), and Digital Terrain Model provides excellent physical properties of highway such as length, width, and boarder. The topology structures of multi polylines provide excellent details of highway constructions and three-dimensional view can improve the visualization of road constructions. It can be said that, three-dimensional view can an excellent tool for highway network designing using remote sensing and geographic information system.

Keywords: Three-dimensional visualization, Geographic Information System, Digital terrain model, Remote sensing, Digital Elevation Model.