

Multidirectional Scanning Model for Vectorizing Raster Images

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This paper presents MUSCLE (Multidirectional Scanning for Line Extraction) Model, for automatic vectorization of raster images with straight lines. The algorithm of the model implements the line thinning and the simple neighborhood methods to perform vectorization. The model allows users to define specified criteria which are crucial for acquiring the vectorization process. In this model, various raster images can be vectorized such as township plans, maps, architectural drawings, and machine plans. The algorithm of the model was developed by implementing an appropriate computer programming and tested on a basic application. Results, verified by using two well known vectorization programs, indicated that the model can successfully vectorize the specified raster data quickly and accurately.