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# Implementing the Space Syntax Techniques: a GRASS application for the analysis of spatial configurations

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Space syntax techniques were developed by Professor Bill Hillier and colleagues at University College London (UCL) in the 1980s to analyze spatial configurations. Based on the theory of graph, space syntax techniques measure the relative connectivity of different spaces in the built environment such as a city. By analyzing the accessibility at local street level, the space syntax is able to simulate the likely effects of different street patterns.

Researches at UCL have implemented the space syntax techniques in various spatial analysis software. Although all those software is available free of charge for academic use, none is open source software. Some even have to run inside a proprietary GIS such as MapInfo or ArcView.

With the advent of GRASS 6 and its much improved vector map processing capabilities, it became feasible to implement the space syntax techniques in an open source GIS. This paper intends to document an experimental implementation of the space syntax techniques in GRASS 6 that relies particularly on its vector network analysis modules through scripting.

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