

Abstract

Shortest path finding in a GIS map is one of Mobile GIS feature that is very useful for its user. Path finding consist of two steps which is forming graphs and path-finding itself.

A* search algorithm can be used for path finding problem but it has a disadvantage: memory requirement is too much. This disadvantage make its less ideal if implemented on mobile device as Mobile GIS client. IDA* and IDA* SNC try to solve this, but still ,it has another disadvantage: the amount of expanded node is too much. IDA* SNC algorithm tries to solve all of the previous algorithm disadvantage by behave like IDA* but it has a cache and a probability value to reduce the number of node expansion.

On this final final project, IDA * has been implemented as shortest path finding algorithm on Mobile GIS. The testing and analysis result show how far the efficiency of IDA* SNC memory usage compared with A* and the reduce of node expansion compared with IDA* MREC in shortest path finding problem.

Keywords: Mobile GIS, search algorithm, heuristic, shortest path finding, A*, IDA* MREC, IDA* SNC