Implementing Dynamic Traffic Route Guidance System applying Graph Database

Nang Sai Moon Kham, Sis Hmue Maw
University of Computer Studies, Yangon
[sishmuemaw@gmail.com]

Abstract

All around the world, people experience delays due to bad traffic conditions and finding the best possible roads in road network from given source to given target location is an everyday problem. Graph database technology based on graph theory which captured the highly interconnected structure of data. In this paper, graph database system is applied in which using shortest path algorithm to search the node in the graph structure road network. Among all route planning, Dijkstra's algorithm is one of the famous algorithm for finding the shortest paths between nodes in a graph, which may represent road networks. However, since the shortest path is not surely the best path with least time-consuming, it is necessary to consider some factors such as the type of lanes, traffic volumes, road length, road conditions, driving rules in the optimal path computing. This paper provides an improved Dijkstra algorithm with weighted value regarding these factors. In this paper, the least time is primary taken into account and the weighted time influence model is used in this method.