

## Route guidance system based on self-adaptive algorithm

### Abstract :

Self-adaptive systems are applied in a variety of ways, including transportation, telecommunications, etc. The main challenge in route guidance system is to direct vehicles to their destination in a dynamic traffic situation, with the aim of reducing the motoring time and to ensure an efficient use of available road resources. In this paper, we propose a self-adaptive algorithm for managing the shortest paths in route guidance system. This is poised to minimize costs between the origin and destination nodes. The proposed algorithm was compared with the Dijkstra algorithm in order to find the best and shortest paths using a sample simplified real sample of Kuala-Lumpur (KL) road network map. Four cases were tested to verify the efficiency of our approach through simulation using the proposed algorithm. The results show that the proposed algorithm could reduce the cost of vehicle routing and associated problems.