SERIAL AND PARALLEL IMPLEMENTATION OF SHORTEST PATH ALGORITHM IN THE OPTIMIZATION OF PUBLIC TRANSPORT TRAVEL

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ABSTRACT

Traffic congestion is becoming a serious problem in more and more modern cities. Encouraging more private vehicle drivers to use public transportation is one of the more effective and economical ways to reduce the ever increasing congestion problem on the streets (Hartley and Bargiela 2001). With the research and application of Intelligent Transportation System and the popularization of dual-core computer, there is a higher requirement for solving the shortest path algorithm in large scale transportation networks in real-time by using multi core technology.

This paper basically analyzes the performance of the program execution in sequential and parallel way in multi core machines where in the algorithms designed were executed for large set of nodal points (upto 500) where each nodal point basically represents a source or destination or it can be even a transit point between any source and destination with respect to public transport of Bangalore Metropolitan Transport Corporation.

Keywords : Shortest path, Multi core, Public transport, Congestion problem, Transit point.