

Algorithms & Problem Solving Lab

Synopsis

Team Members :-

Batch : B11

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The Jam Dissolvinator

The project is designed for the concerned Road Authorities to ease the complex task of traffic management and the decision making for the construction and planning of new roads.

Data Structure:- Dynamic Graph, where every node represents the turning points of the road and each weighted edge representing the distance in kilometers between the two turning points.

These turning points are necessary to manage the diversions and for constructing new roads if necessary. Further traffic jam is managed according to the traffic values ranging between 0-1 where 0 represents a blocked road and 1 represents maximum traffic on road.

Also the speed limit will be provided for every road. Blocked roads will be given by the authority and respective road diversions will be done, managing road traffic through shortest paths and less time consuming, hence altering the values of the traffic jam on the new diverted roads.

Approach:- Branch and Bound

Algorithms:-

Bellman Ford Algorithm for shortest path algorithm will be used through which shortest path will be detected and updated whenever there is an update in :-

1. Traffic values changes
2. Blockage of road

Also according to our project needs we may use A* algorithm , Floyd Warshall or Dijkstra's.