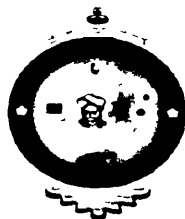


**VISVESWARAIAH TECHNOLOGICAL UNIVERSITY
BELGAUM**



A Project Report On

**“SHORTEST PATH FINDER USING DISTANCE VECTOR
ALGORITHM IN AD HOC NETWORKS”**

Submitted in partial fulfillment of the requirements for the
Award of degree of Bachelor of Engineering

Submitted By

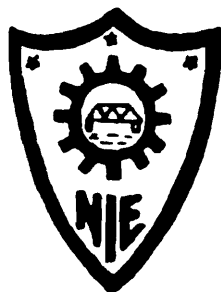
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Abstract

The distance-vector routing algorithm uses Bellman-Ford algorithm to calculate paths. A distance-vector routing protocol requires that a router inform its neighbors of topology changes periodically and, in some cases, when a change is detected in the topology of a network, exchange routing information about the current status of the network and how to route packets to their destinations. The algorithm basically merges routing information provided by different routers into lookup tables. It is well defined and used on a number of popular networks. It also provides reasonable performance on small- to medium-sized networks.

The Objective of this Project is to calculate shortest path between two systems in the existing wireless Ad hoc network using Distance Vector routing Algorithm.

The synchronization of time among the systems is achieved by using Network Time Protocol (NTP).

In order to find the shortest path in between source and destination machines, one has to login as client if he is a client or else specify whether it's a NTP server being logged on.

After logging on as client machine one has to specify the IP address of the NTP server machine in order to synchronize the time. After specifying the IP address of the NTP server the time gets synchronized and one can start calculating the shortest path in the network.

Ping server uses echo packet to find the shortest path between systems and using this echo packet one can calculate delay between systems. Once delay is calculated data is stored in XML file of each system and XML files are exchanged among the others systems to obtain the shortest distance to navigate by avoiding the network traffic