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Collaborative Approch for Supporting Privacy Protection in Personilized Web Search

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Abstract— Wireless Sensor networks are always found to be in trouble as the devices forming the network are equipped with limited sources of power supply. This could lead to breaking of a path since any device appearing in the network may run out of energy. Several energy efficient protocols for WSN are being devised which aims to successfully deliver the packets from sensor node to the Base Station. These protocols take certain parameters like distance to find the path. These protocols take up a considerable amount of energy to find the shortest distance. We aim to formulate a protocol which targets to find an optimal path at the same time conserve the energy of sensors so that the lifetime of the network can be enhanced. We propose aOptimum Path and Energy Aware Sensor Routing Protocol (OPEASRP)which makes use of load as a parameter for calculation of optimal path and LEACH for conservation of energy of the nodes.
Keywords-**Web Search, GreedyDP, Greedy.**

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I. INTRODUCTION

An efficient energy aware approach for path finding in Wireless Sensor Network is proposed here. As we know that a wireless sensor network (WSN) is a wireless network consisting of spatially distributed autonomous devices using sensors to monitor physical or environmental conditions. A WSN system incorporates a gateway that provides wireless connectivity back to the wired world and distributed nodes. A WSN node contains several technical components. These include the radio, battery, microcontroller, analog circuit, and sensor interface. When using WSN radio technology, you must make important trade-offs. In battery-powered systems, higher radio data rates and more frequent radio use consume more power.

To extend battery life, a WSN node periodically wakes up and transmits data by powering on the radio and then powering it back off to conserve energy. Microprocessor trends for WSNs include reducing power consumption while maintaining or increasing processor speed. Much like your radio choice, the power consumption and processing speed trade-off is a key concern when selecting a processor for WSNs. Now days more work is evolving to reduce the power consumption of WSN, but still the results are not that much proven.

We are deriving an efficient approach to reduce the power consumption for path finding in WSN. We will propose an energy aware approach which will definitely result in reduce power consumption as compared to other proposed methodology. This approach will add an advantage to the performance of the wireless sensor networks by improving the energy efficiency of the network.

II. LITERATURE SURVEY

M.Tamilarasi, G.Yogarajan [1] a new Mobile Data-Gathering Mechanisms for wireless sensor networks proposed in this paper. The mobile collector, called MobCar in this paper, directly visits all sensors and collects data by single hop from it.

Parveen Sharma, Neha Khurana [2] in this process, the data may travel through several intermediate paths, and there exist a need to select the best possible optimal nodes to forward the data. This optimal selection of nodes will enable to achieve a high performance in the network. Large amount of worked has been carried out to find the optimal path in the network routing to improve its efficiency and to remove congestion problems.

Zheng Zhang, Zhenbo Li [3] in this paper, they propose two novel navigation algorithms for outdoor environments, which permit robots to travel from one static node to another along a planned path in the sensor field, namely the RAC and the IMAP algorithms.

Aniket. A. Gurav1and Manisha [4] in this paper they present bio-Inspired Ant Colony Optimisation ACO algorithm for Optimal path Identification OPI for packet transmission to communicate between SN to BS.

Wilton Henao-Mazo [5] they proposed a scenario for relaying that uses multiple diverse paths obtained considering the links among network nodes that could provide reliable data transmission. Shilpa Mahajan, Jyoteesh Malhotra [6] In this paper, they will be proposing an energy efficient technique based on graph theory that can be used to find out minimum path based on some defined conditions from a source node to the destination node.

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III. PROBLEM DEFINITION

Aim: To find an Energy Efficient Path by reducing the energy consumption in Wireless Sensors Network so that the network lifetime can be improved.

1. To find the optimal path.
2. To reduce the energy consumption.
3. To improve the life time of Wireless Sensor Network.

IV. PROPOSED METHODOLOGY.

The OPEASRP methodology incorporates calculation of load on each node in the network and forming clusters of the nodes using LEACH algorithms.

Load on every sensor node is calculated first. Then cluster head is selected based on load. The energy efficient method of LEACH is applied for cluster formation. The packets are then transferred from Cluster Heads to Base Station selecting the optimal path based on load. The Cluster heads having less load are selected to be in the path to BS.

Load Calculation: A load on each node in the context of WSN be defined as the number of store forward requests it has to serve or are in queue. The requests are counted in terms of number of packets. So for a node to calculate load on it, the number of packets it has forwarded are counted with respect to total number of packets submitted to it during a period of time.

Load = no of packets released / total number of packets

Load is defined as exceed number of packets present in the node with respect to total number of packets.

In OPEASRP, load calculation is a onetime task which is performed when the network is started or when any new node is added or any node is restarted. The task is performed for all the nodes in the network.

LEACH

LEACH methodology creates the clusters of the sensors and assigns a Cluster Head to operate on behalf of the cluster. The criteria for selecting a cluster head is nothing but the load calculated in the load calculation process. In a cluster the node with lowest load is selected as the Cluster Head (CH). This CH then transfers the packets to base station (BS).

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