Abstract

A basic service in Wireless sensor network is monitoring of particular region of interest. Since due to the nature of WSN random development hole in the ROI is obvious. So for these reason ROI should be completely and continuously covered. And in this paper we have attended and covered the issue of hole detection and healing in mobile WSNs. The main drawbacks of existing systems are selecting the boundary of ROI, finding coverage holes and estimating their characteristics, finding best location for relocating mobile nodes for repairing holes, and moving mobile nodes to safe location with minimum moving and messaging cost. And to handle all these problems a novel technique is present named hole detection and healing. The computational complexity of HEAL is given as $O(\sqrt{v})$, in which is the average number of 1-hop neighbors. In Heal there are Two Stages first, it detects boundary nodes and finds holes and in second, it treats hole healing. A distributed virtual forces-based local healing methodology is presented in which the nodes in a suitable distance from the hole will be included in the healing procedure and also presented wakeup scheduling algorithm. With the help of wakeup scheduling algorithm energy utilization of sensor nodes is reduced and increases the life of network.
References


Index Terms

Computer Science
Pattern Recognition

Keywords

Hole detection and healing  Border nodes  Region of Interest  Wireless sensor network  Wake up  Scheduling.