Abstract

WMSNs stands for Wireless Multimedia Sensor Networks in which various sensor nodes having the property of sensing scalar quantity like pressure, temperature, etc. and also to ubiquitously retrieve multimedia information like still images, video, sound etc. Due to the scarce resources like battery, processing capability, etc., application of WMSNs is constrained. WMSNs are supported with array of camera which gives multiple images of same scene of interest but individual transmission of these images consumes more energy resulting to less network lifetime. So there is always a trade-off between the image quality and energy consumed by the node. In this paper we have proposed a protocol, "Multipath based Energy Efficient (MEE) Routing, which transmits the image optimally to the sink wirelessly and also consumes
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less energy of the node. MEE uses the benefits of AOMDV to build the multiple paths first then they are scored using path conditions based on availability of resources such as buffer size, energy, expected transmission time, and packet loss along the paths. MEE is compared with non-energy efficient routing protocols which do not consider the average energy of nodes and overlapping and non-overlapping parts of the original images. Simulation is performed using ns-2. 27 platform and results have demonstrated the effectiveness of MEE in terms of less delay in packet delivery, high throughput and less average energy consumed by the nodes compared to non-energy efficient routing protocol.

References


- Honggang Wang, DongmingPeng, Wei Wang, Hamid Sharif, Hsiao-Hwa Chen, "Collaborative Image Transmissions Based on Region and Path Diversity in Wireless
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Index Terms

Computer Science

Wireless

Keywords


Expected Transmission Metric (etx)