



A SIMPLE SCHEME FOR LOCATION AND DISTANCE ESTIMATION OF WIRELESS SENSOR NODES IN OUTDOOR ENVIRONMENTS

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Abstract- In this paper we suggest a simple, practical and cost effective localization scheme that can be used to manually deploy wireless sensors to form wireless sensor networks (WSNs). We test our scheme exclusively in outdoor environments using commercially available IRIS XM2110 sensor motes. The location discovery of sensor motes deployed in outdoor environments is obtained in accordance with geographical latitude and longitude. The distance between the deployed sensor motes is also computed using the Haversine formula. The proposed scheme is the outcome of experiments performed on data visualization and monitoring tool Mote View 2.0.F developed by Crossbow Technology™. The proposed scheme is easy to implement and requires less number of sensor motes as compared to other manual deployment based schemes. The visualization of location is validated on Google earth geographical information program.

Index terms: Google earth, IRIS XM2110, localization, Mote View 2.0.F, data visualization, WSNs.