

Seminar Title : Minimization of Localization Error of Amorphous Algorithms for Wireless Sensor Networks.

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Abstract : **The exploration of wireless sensor network localization is a growing field of study. Achieving the precise location of sensor nodes is crucial for enhancing network longevity, expanding coverage, implementing geographical routing, and maintaining a congestion-free network. An Ensemble approach consisting of a weighted Amorphous and DV-Hop algorithm is proposed in the first proposed work to reduce the localization error of traditional Amorphous algorithm. Among all localization algorithms, Amorphous localization is highly suggested for usage in many application domains due to its simplicity, viability, low cost, and no additional hardware requirements. In order to determine the suitable optimization algorithm for Amorphous, the parameters such as minimum, average, and maximum execution times of Amorphous-ALO and Amorphous-GWO are considered for evaluation of the performance of the proposed algorithms. a hybrid localization algorithm named the Weighted Centroid Amorphous algorithm is proposed to reduce the position error in WSN. Instead of the conventional centroid algorithm, a weighted centroid algorithm is used. The weight in this work is considered as a function of the hop value and hop size estimated by the Amorphous algorithm.**