

## PLANNING MULTIHOP WIRELESS NETWORKS: A SOLUTION USING A MINIMUM SPANNING TREE AND GENETIC ALGORITHM

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**Abstract.** Several research efforts have use the IEEE 802.11 as solution for connecting many devices in a high performance network. However, the planning involved in this type of network is not a trivial. In this paper, we consider the important issue of planning to maximizing throughput and reducing the possibility of many devices creating a bottleneck around the communication. For this, we used a minimum spanning tree for creating the routes and a genetic algorithm for providing a better gateway whenever possible. The results show that there is a significant gain in performance when the planning process is created with this approach.