

On the Energy Constraint in Wireless Sensor Networks

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Abstract—Wireless Sensor Networks (WSNs) is one of the most promising technologies in our days. They can be found in a wide area of applications from domestic to military ones. A WSN is made by a number of tiny battery powered sensor nodes, having sensing, processing and communicating possibilities. In most cases the replacement or replenishment of the batteries is difficult or impossible, so the energy is the main constraint in designing and maintaining WSNs. This paper presents an overview and taxonomy of the solutions for the energy constraint. They are divided in solutions for energy conservation and for energy replenishment. Next, the solutions are grouped in node level and network level. A section is foreseen for describing the authors' approach. It consists in software power consumption monitoring, at node level, during network employment. This information can be used for energy efficient communication and for strategies for conserving the energy at the node level.

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