A Survey and Classification of Wireless Sensor Networks Simulators Based on the Domain of Use

M. Živković, B. Nikolić, J. Protić, R. Popović

References:
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Abstract:
Wireless sensor networks (WSN) are formed by hundreds and thousands of small sensors, communicating between themselves by means of wireless communication. Due to large scale of these networks and expensive deployment, simulation is the method of choice in many projects that study and analyze the performance of a sensor network. A great number of simulators for WSN have been developed and presented in the open literature, and it is often very difficult to decide which simulator to choose as the most appropriate for different purposes. Although there are some papers that compare different WSN simulators, an exhaustive survey and classification of simulators does not exist at the moment. In this paper, we will review 20 representative simulators. Then, we will identify their features, such as GUI, supported WSN models, network protocols, scalability, etc. Based on the analysis of these characteristics and the suitability for specific domains of use, simulators are classified into three major domains of use: education, research, and industrial development and design.

Keywords:
educational simulators, domain of use, survey, research simulators, industrial design simulators, Wireless Sensor Networks, simulators