BACKBONE DETERMINATION OF WIRELESS SENSOR NETWORKS VISUALIZED ENGINEERING MANUAL

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Abstract. Wireless Sensor Networks (WSNs) have been the focus of intense research during the past few years because of their potential to facilitate data acquisition and scientific studies[1]. Lack of a fixed infrastructure and dynamic network topology make the routing problem one of the most challenging issues in the WSN area. One popular solution is forming a virtual backbone that forwards the packets. This algorithm engineering work graphically presents a procedure of backbone determination of various WSN models. The whole work is implemented via a software sketchbook Processing that is both a programming language and an Integrated Development Environment (IDE) built for visual arts[2]. This article is a manual of using the implemented graphic program.

1. Introduction

Wireless Sensor Networks (WSNs) are composed of inexpensive autonomous electronic sensors distributed over regions where the sensors communicate with each other wirelessly. Sensors are typically thrown in an unattended and random manner on the area to be monitored. Wireless communication allows the formation of flexible networks, which can be deployed rapidly over wide or inaccessible areas. Nowadays, WSNs emerge as an active research area in which challenging topics involve energy consumption, routing algorithms, selection of sensor locations, and so forth[3].

References

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