Available online at www.sciencedirect.com

ScienceDirect

Materials Today: Proceedings 5 (2018) 1063–1070

materialstoday: PROCEEDINGS

www.materialstoday.com/proceedings

PMME 2016

Smart Objects Assisted Event Detection System Using Wireless Sensor Networks

Prabakaran.N[a], Jagadeesh kannan.R[b]

[a]*School of computing science and engineering, VIT University, Vellore, India*
[b]*School of computing science and engineering, VIT University, Chennai, India*

Abstract

In recent years, the technological improvement in wireless smart communication (WSC) and mobile computing stimulated a consistent growth both in number and types of implementations for Smart Classes and Objects (SCO). Significantly enlarging their battery longevity and hence their serviceability, it is essential to minimize power consumption and thus ameliorate power efficiency. Before a smart device initiates communication, it must discover the set of nodes that are within its direct communicating range. The gathered relevant information is kept in its internal data structures to apply with routing. The behavior of an ad-hoc and dynamic devices relies on the functioning of its neighboring interconnected devices since it must sense the medium before it starts transmitting packets to nodes in its interfering range, which can give rise to collisions at the other devices. The wireless ad-hoc devices acclimatize dynamically its topology knowledge range, leading to faster convergence of its neighboring nodes to establish smart objects communication.**T**he design goal of SCO is to acquire the real time data acquisition with an impact of supervisory control for large scale Remote Environment. Proposed system considers a logging System for a remote communicationand the power that is being wasted will be saved using sensors to indicate the microcontroller to increase or decrease the power to the required levels. Our proposed system is to help in automation of SCO that in turn makes our lives easier.

Selection and Peer-review under responsibility of International Conference on Processing of Materials, Minerals and Energy (July 29th – 30th) 2016, Ongole, Andhra Pradesh, India.

*Keywords:*WSC;Logging system; Smart classes and objects(SCO) and Remote communication.

* Corresponding author. Tel.: +91-9629098305; fax:+91 44 - 39932555.
*E-mail address:*dhoni.praba@gmail.com,dr_rjk@hotmail.com

Selection and Peer-review under responsibility of International Conference on Processing of Materials, Minerals and Energy (July 29th – 30th) 2016, Ongole, Andhra Pradesh, India.

1. Introduction

In recent years there has been a growing interest among consumers in the Smart classes and objects (SCO). Smart automation contains multiple interconnected smart devices and entertainment consoles, etc. Intelligent devices are available to the system to provide control, convenience, comfort and security to the end users [1]. With advancement in technology can control the levels and also to give more comfort to end users. All mobile devices have a maximum transmission power which establishes the largest transmission range of the device [2]. As nodes are portable, the link between two devices can break quite often depending on the spatial direction of the nodes. The mobile wireless devices out of communication range can use new nodes within their communication range to transmit the transmitted packets.

If the topology is too sparse, routing requests may be obstructed due to the network partitioning, considerably increasing end-to-end packet delays.On the other hand, if the topology is excessively dense, nodes may run out of their energy quickly and may escalate interference among them [3]. However, topology control can offer substantial control over network resources such as battery power and reduce redundancy in network communications. The algorithms to control topology can be grouped into two categories: Centralized topology control algorithms and Distributed topology control algorithms. Figure 1Showdata acquisition using wireless sensor nodes connectivity in normal as well as data centric. Topology control algorithms thus generate, or derive, a simpler topology from the original one constructed under the common maximum transmission range [4].

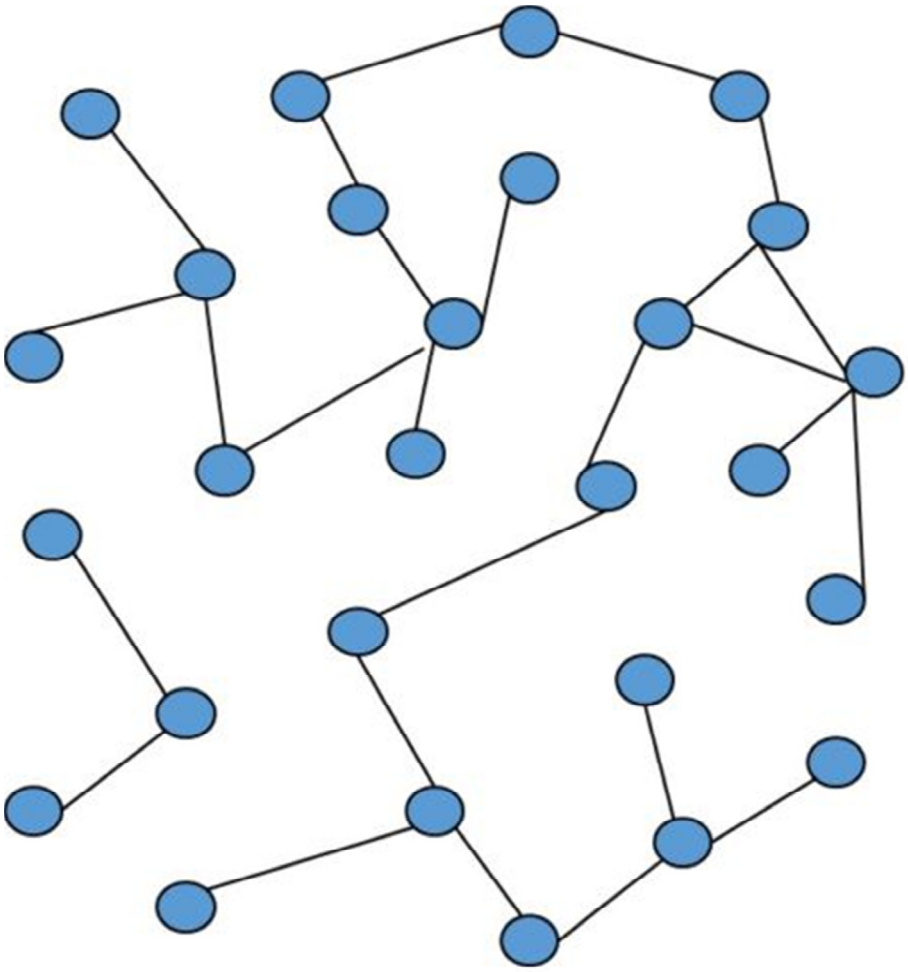

Fig. 1. Data centric route acquisition.