RELIABLE WIRELESS SENSOR NETWORKS IN SMART HOMES

By

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Abstract of project paper presented to the senate of Infrastructure University Kuala Lumpur in partial fulfilment of the requirement degree of Master in Information Technology.

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In recent time, became the joint action in worldwide about access to WSN technology, also became more popular and receive growing acceptance as a wireless sensor network in smart home that contributes bring easy life. As will be there a big development about WSN networks. also evolution or estimate of performance is so important in first steps of implementation WSN, there are many of factors or matrices such as (End to end delay, Throughput, Mac load and Traffic received) which can be suitable to certain topologies, in this project we will analysis and compare between three of WSN Topologies (stare, tree and mesh) with use different packets size (512, 1024, 1500) in virtual WSN. Will our main focus is determine which better topology support smart home. Results show that Opnet software is the best compare with End to end time delay at Different of packets size and Throughput at Different of packets size

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APPROVAL

This thesis was submitted to the Senate of Infrastructure University Kuala Lumpur (IUKL) and has been accepted as partial fulfilment of the requirement for the degree of (Master in Information Technology).
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DECLARATION

I declare that the project report is my original work except for quotations and citations which have been duly acknowledged. In addition, I declare that it has not been previously, and it is not concurrently, submitted for any other degree at Infrastructure University Kuala Lumpur or at any other institutions.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

In new era the home automation, intelligent house, smart home, home environment automation and control, systems integration, home network, home area network, management of home from anywhere, or domestics all refer to one thing which is a system uses different technologies to equip home parts for more intelligent monitoring and remote control and enabling them for influential harmonic interaction among them such that the everyday house works and activities are automated without user intervention or with the remote control of the user in an easier, more convenient, more efficient, safer, and less expensive way. Smart Home (SH) has been a feature of science fiction writing for many years, but has only become practical since the early 20th Century following the widespread introduction of electricity into the home, and the rapid advancement of information technology [Gerhart and James, 1999, pp xiii and F. K. Aldrich, 2003, pp. 18-19]. The disparate sensor and actuator nodes according on wireless networking technologies are deployed into the home ambiance. These nodes generate real-time data related to the object utilizing and movement inside the home, to predict the wellness of a singles. Here, wellness stands for how efficiently someone stays fit in the home environment and performs his or her daily routine in order to live a long and healthy life.

The big improvement displayed by introducing wireless technology is that it retrenching the complexity to harness wired transmission and easy the installation of sensors, controllers, and actuators. The cost and installation attempts for a large number of sensors in an urban environment are exponentially lower by wireless technology innovations. There exists different wireless communication mediums (technology) in which a wireless sensor network can be constructed based on respective applications and strengths. Wireless sensors can be functioned through

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