DESIGN DATA HANDLER IN WIRELESS SENSOR NETWORK

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ABSTRACT

The development wireless sensor network (WSN) is to monitor indoor air quality of laboratories. The architecture for WSN as indoor air quality monitoring system can be divide into two stages which is architecture for sensor nodes and GUI development for base station (data handler). This project just concentrates on GUI development for base station. In this project, WSN system has 3 sensor nodes which are placed in different laboratories. The sensor node delivers the indoor air temperature and relative humidity for every hour until 24 hours of monitoring to base station. Data handler act as base station to collect message or information that relay from sensor nodes through transceiver. Base monitoring is the last part of WSNs which is to analyze all information and handle the event data from sensor node. The result of monitoring is use to determine the dew point and humidex value can be predicted as a range and degree of comfortable.

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CHAPTER 1

INTRODUCTION

1.1 Introduction to Wireless Sensor Networks

Communication constitutes one of the major important elements in human life. The definition of communication comes with different explanations. Communication is typically referred to of sending data or information from one place to another place. In hundred years ago, human used various kind of medium to communicate with other people in deferent part of the world. For example, American and Chinese natives used fume to indicate information, Africa native used drum to perform sound, and some ethnics used pigeon by fastening a small fragment of paper at pigeons leg to send message from one place to another place.

When human's civilization expanded, a great diversity of communication equipments was realized. In the year 1830, telegraph was introduced by Sir Charles Wheatstone and Sir William Fothergill Cooke. Later, Sir Alexander Graham Bell in the year 1876 invented wired telephone which could send voice through electrical signal. Instead, the most important discovery in the history of wireless technology was the existence of electromagnetic waves introduced by Heinrich Rudolf Hertz in 1888 that electromagnetic waves exist as predicted by James Clerk Maxwell and Michael Faraday. He also proved that these waves could be transmitted and travelled through space which was able to be received by an experimental apparatus. The experiment of Hertz has been proving to be very important to the field of wireless communication, though practical applications of the technology would be implemented by others. Based on this innovation, in 1894 Guglielmo Marcon began his experimentations, and in 1899 he had sent a telegraphic message successfully across the English Channel without deploying wires. From this achievement it is proved with evidence that the methods and theory of wireless communication can perform a system with real