BORANG PENGESAHAN STATUS TESIS^

JUDUL: **MONITORING TEMPERATURE SENSOR**

SESI PENGAJIAN: 2004 / 2005

Saya MOHD HAFIZAL B. HANAFI
(HURUF BESAR)

mengaku membenarkan tesis (PSM/Sarjana/Doktor Falsafah) ini disimpan di Perpustakaan Fakulti Teknologi Maklumat dan Komunikasi dengan syarat-syarat kegunaan seperti berikut:

1. Tesis adalah hakmilik Kolej Universiti Teknikal Kebangsaan Malaysia.
2. Perpustakaan Fakulti Teknologi Maklumat dan Komunikasi dibenarkan membuat salinan untuk tujuan pengajian sahaja.
3. Perpustakaan Fakulti Teknologi Maklumat dan Komunikasi dibenarkan membuat salinan tesis ini sebagai bahan pertukaran antara institusi pengajian tinggi.
4. ** Sila tandakan (/)

_____	SULIT	(Mengandungi maklumat yang berdarjah keselamatan atau kepentingan Malaysia seperti yang termaktub di dalam AKTA RAHSIA RASMI 1972)
_____	TERHAD	(Mengandungi maklumat TERHAD yang telah ditentukan oleh organisasi/badan di mana penyelidikan dijalankan)
_____	TIDAK TERHAD	

(TANDATANGAN PENULIS) (TANDATANGAN PENYELIA)

Alamat tetap: NO 86, TAMAN NURI,
05300, ALOR SETAR KEDAH

EN NAZRUL B BAHAMAN
Nama Penyelia

Tarikh : 25/11/2005 Tarikh : 25/11/2005

CATATAN: ** Jika tesis ini SULIT atau TERHAD, sila lampirkan surat daripada pihak berkuasa.
^ Tesis dimaksudkan sebagai Laporan Projek Sarjana Muda (PSM)

MONITORING TEMPERATURE SENSOR

MOHD HAFIZAL B. HANAFI

This report is submitted in partial fulfillment of the requirements for the Bachelor of Information and Communications Technology (Computer Network)

FACULTY OF INFORMATION AND COMMUNICATIONS TECHNOLOGY
KOLEJ UNIVERSITI TEKNIKAL KEBANGSAAN MALAYSIA
2005

DECLARATION

I hereby declare that this project report entitled

MONITORING TEMPERATURE SENSOR

is written by me and is my own effort and that no part has been plagiarized without citations.

STUDENT : _____ Date: 25 11 2005
(MOHD HAFIZAL B. HANAFI)

SUPERVISOR: _____ Date: 25 11 2005
(EN. NAZRULAZHAR B HAJI BAHAMAN)

ACKNOWLEDGMENT

Alhamdulillah, first and foremost, I would like to thank God for giving me the idea, strength and patience to complete my PSM I and PSM 2. This project would not have been possible without the help of many people who had been very kind in giving their valuable advice and encouragement. First and foremost, I would like to say a big thank you to my supervisor, Mr. Nazrulazhar because he gives support, encouragement, advice and not to forget, patience throughout the entire project.

Besides that, I would like to thank both of my parents for being patient and has helped me a lot during my studies and thank you to my friends who have been there when I needed them. Their help and advices have kept me going for these. With the support and love given by all of you, I hope it will encourage me as a career person one day.

ABSTRACT

The project will develop is ***Monitoring Temperature Sensor***. This project has a function to measure server room temperature. The objective of this project is to help administrator to monitor the current server room temperature. The idea to develop this project come form the observation, the method of admin use to control and monitor temperature of server room. Found that the method using now not suitable to use. That's because server room is the important room or place for company, therefore one method must found to monitor this room. Implementation of this project does in prototype. For this project two prototype will develop, one for measure the temperature and another on for show the current output of temperature. Where the sensor at prototype has a function to measure the current temperature of server room and the data of current temperature were send to the client system using serial port. This project also can show output of situation of current temperature either normal, caution, dangerous through the parallel port. The analysis and research can help to develop better way to monitor temperature of server room. Therefore the schedule and methodology use for develop this system must clear and detail.

ABSTRAK

Projek yang ingin dibangunkan ialah ***Monitoring Temperature Sensor***. Projek ini berfungsi untuk menyukat suhu bilik server. Objektif bagi projek ini ialah memudahkan pihak pengurusan untuk membuat pemantauan keadaan suhu semasa bilik server. Idea untuk menghasilkan projek ini adalah berdasarkan kepada permerhatian cara pihak pengurusan beberapa syarikat dalam mengawal keadaan suhu bagi bilik server. Didapati cara yang digunakan sekarang tidak begitu sesuai untuk digunakan. Oleh kerana bilik server adalah satu bilik yang terpenting bagi sesuatu syarikat, oleh itu satu cara pendekatan perlu diambil dalam mengawal suhu bagi bilik server tersebut.Projek yang dibangunkan ini dibuat dalam prototaip. Untuk projek ini terdapat duan prototaip yang akan dibangunkan, satu untuk mengukur suhu semasa bilik dan satu lagi untuk mengeluarkan output bagi keadaan suhu semasa bilik. Dimana sensor yang terletak dalam prototaip bertindak untuk mengukur suhu semasa bilik server tersebut dan suhu tersebut akan dihantar ke sistem pengguna dengan menggunakan serial port. Projek ini juga akan mengeluarkan output dengan menggunakan parallel port, di mana ianya akan mengeluarkan isyarat bagi suhu bilik sama ada biasa, sederhana atau dalam keadaan bahaya. Analisa dan kajian perlu dilakukan dengan terperinci bagi memastikan projek ini berjalan dengan lancar tanpa sebarang masalah. Oleh itu perancangan dan methodology yang digunakan dalam membangunkan projek mestilah tepat dan jelas fungsinya.

TABLE OF CONTENTS

LIST OF TABLE

LIST OF DIAGRAMS

LIST OF ABBREVIATION

MTS	Monitor Temperature Sensor
PDA	Personal Digital Assistance
SDLC	System Development Life Cycle
VB	Visual Basic
ADC	Analog Data Circuit
LED	Light Emitting Diode
Real VNC	Virtual Network Computing

LIST OF ATTACHMENT

CHAPTER I

INTRODUCTION

1.1 Project Background

The temperature for server room must always stabile, competitive, inspects and maintainer for every one hour to make sure the temperature can support environment in server room. Owing to, it wastes the time, strength administrator and from this project, the administrator can monitor the temperature without goes into that server room. This project can show the current temperature with any client, which the system include current temperature value in system, show current signal value in (system and prototype), show alarm in (system and prototype), set time to measure the temperature and can start and stop to measure temperature. Beside that the prototype also can reset the function at prototype.

For develops the project, it must analysis and research of various kind from aspect hardware, software. The system will detect the command and transfer the command into the mini prototype for run. To communicate (transfer and receive command) from mini prototype to server (system) use parallel port and serial port.

1.2 Problem Statement

Monitoring temperature at server room is by manual, so that have many problem. The problem of this method is:

i. Do not have a system to monitor the current temperature

Mostly the company or factory do not has a specified system to monitoring the server room temperature. The information of temperature is record manually on a paper and check the current temperature admin must go the server room. The information kept manually in paper could be lost if the file is misplace.

ii. Do not have a specific signal be show if temperature high.

No signal at air-condition to show if temperature is high; air-condition just show the value of temperature. For new user difficult to detect either the temperature is high or normal.

iii. Waste time to always go to server room to monitoring the temperature.

The current method to check the temperature server room for mostly company is by manual. Which every one hour the administrator must go server for checking the temperature. This method wastes the time and difficult. It more difficult if the location server room is far.

1.3 Objective

The objective is list to show the advantage of developing Monitoring Temperature Sensor. The objectives are as follows:

i. Show a current server room temperature according the system.

The current method to check the server room temperature is administrator must go to server room. This method not efficient and take a time to go server room. By mean of this project the administrator can monitor or check the current server

room temperature with two ways. The first way is monitor or check in system and second way is check at prototype

ii. Show signal when temperature not stabile or high

Temperature in server room must always normal when the in server room temperature is high it can give impact to server especially Oracle, that way important to always check and make sure the temperature in normal situation. By mean of this project, when the temperature high, the system will give the signal to inform the administrator. The signal will display at prototype and system.

iii. Show signal current server room temperature

This prototype and signal also will give the signal of current temperature. The circuit will display light green for normal temperature, yellow for cautious and red for hot temperature. From that administrator know the temperature is normal or not, administrator just see at interface of system and at prototype.

iv. Can start and stop to monitor the temperature.

The project MTS also can start or stop to monitor the temperature in system. The purpose of this function is to shutdown and up the hold function.

v. Set timer to monitor

In this situation, administrator can select time (second, minute, our) to monitor the value temperature whether want to continuous or single.

1.4 Scope

Monitoring Temperature Sensor is not just a project that will help administrator or air-condition technician to monitor the temperature of server room but also give the signal of temperature either normal or high. This project also has limitation function and users.

i. This system focus to monitor and measure temperature for server room only

ii. The measure can do for one room only for on time.

iii. The situation of temperature can divide into normal, caution, high or dangerous.

iv. Two prototype are using, one for measure the temperature and another one for display a situation of temperature either normal, caution or dangerous.

1.5 Project Significance

Research is very important to identify if the system of monitoring temperature for server room it have a value or not to commercial. After doing the research, this project has value at market especially big company which uses Oracle. This project will help the administrator or technician air-condition to monitor the temperature of server room. The system will send the current temperature to administrator. System will inform either the temperature is normal or not like alarm. The server for mostly industry has 24 hour operation for every day, so important to make sure the temperature is always normal.

The prototype and system have a function to give a signal either the temperature is normal or not example if the temperature is normal the circuit will show the green light, when the temperature is increase to high the circuit will show the yellow light as to inform to user to be careful and when the temperature achieve the high value circuit will show the red light as warning. The circuit also generates the "*beep*" to inform the administrator. At system administrator will see one message tell the temperature at server room is not normal value. From that administrator can take action to solve that problem.

This project is very helpful for administrator compare to method use know to checking the temperature of server room. Compare to current method is waste time and need a lot of people to handle it. With this project administrator can monitoring the temperature at server room from another room without go to server room.

1.6 Expected Output

The expected outputs for this project is one prototype for temperature circuit which at that circuit has temperature sensor work as measure the temperature of server room. The system has a function to display the current temperature. Another function of this project can detect if temperature in server room hot or normal situation with method one mini speaker will generate the "*beep*" if the temperature at server room in situation hot then warning light will apparent at to inform administrator. And at system administrator will see one message tell the temperature at server room is not at normal temperature .When the temperature at server room in normal situation the circuit will appear a normal light (green for normal, yellow for cautious and red for hot temperature).

This circuit connected to server using parallel port and serial port for enable circuit and server communicates. One system will create at server as an interface to monitor the value temperature in circuit. The system will create using Visual Basic. Administrator can monitor the temperature of server room from another room using LAN technology and can use portable device.

1.7 Conclusion

As conclusion, this chapter provides an overview of the intensive application for monitor temperature sensor that include occur in the current system, project objectives, product features and scope.

Beside that, the monitor temperature sensor is the best solution to monitor totality temperature in server room and fast action taken to solve that if probability temperature not competitive.

So the next chapter will be carried out according to the literature researches that have been conducted. To put it briefly, chapter 11 will discuss the case study about language learning courseware and its findings.

CHAPTER II

LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1 Introduction

Literature review is the important method for developers before they develop their project. Literature review aim to research as many as source to helping developers to get idea to develop the project. The activity involved searching, collecting, analyzing and drawing conclusion form all debates and issues raised in relevant body of literature. For develop Monitor Temperature Sensor project, it need to do research and collect related information of this project with past projects. From that can make comparison between past projects and the project and project want to develop. There are many ways to conduct literature review such as from internet, journal, books, technical reports, proceeding references, anonymous reference, and E-book.

A good project also needs a good manageable process. Project Methodology is used define fundamental principles, rules and how you are going to do to complete the project. It is a way to use all available technique, tools and approaches used to achieve predetermined objectives. It is important for developers to demonstrate an awareness of methodological tools available an understanding of which suitable for the projects.

Before developing a Monitoring Temperature Sensor, work flow and all the planning process need to be done. Work planning is one important thing to make sure the project successfully done and finished as the target. Work planning also is a ways