APPLICATION OF ATMEL AT89S52 MICROCONTROLLER FOR REAL TIME TEMPERATURE CONTROL SYSTEM

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ABSTRACT

This project is about the application of microcontroller for real time temperature control system. The designing of the circuit included the sensor, controller, actuator and the process. In this project, the controller that has been used is a low cost ATMEL AT89S52 microcontroller. The microcontroller will control a DC fan to low, medium or high speed with depends on the different temperature from sensor. The output speed will be indicating with seven-segment display to show the low, medium, and high speed mode.

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CHAPTER 1
INTRODUCTION

1.1 Overview

Since the fan were introduced to our daily live, it main function is to control the ventilation system and hence should maintained the temperature as the comfort level. The fan is widely used among all people around the world. The temperature in a room or space is normally controlled by manual selection button of speed's switch. Most of conventional fans were using ON-OFF control system. The fan that frequently used are normally has 3 speeds which is named as level 1 (lowest), level 2 (medium) and level 3 (highest). Therefore, the temperature in a room can be controlled through each level (1, 2 and 3) by choosing any of the desired level.

This project presents a new approach to control the temperature in a room based on microcontroller automatically. This system will change the old approach where it is normally controlled by human. This system will provide users with more efficient and high tech approach in order to achieve a comfortable and easy live.

Temperature sensor will collect the real world analog data. Throughout the signal conditioning circuitry and combination with ADC (Analog to Digital Converter), the digital signal will send to the microcontroller parts which contain the C programming. The system then will automatically control the speed level depending on the condition of temperature in a zone.