

**PORTABLE HUMIDITY AND TEMPERATURE SENSOR MONITORING
SYSTEM WITH LOGGER**

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ABSTRACT

This project presents the design of the portable humidity and temperature sensor monitoring system with logger. The objective of this project is to design a system that can collect data from humidity and temperature sensor and stored in the microSD card by using microSD shield. The humidity and temperature can be measured by using the Sht11 sensor and the data will send through the Arduino microcontroller (Arduino Mega 2560). The data read in programming time by using the real time clock module (DS1307) and record the data with actual date and time. The data collected from the sensor (Sht11) will be converted into digital data and the Arduino microcontroller will send the data to microSD shield and stored in the microSD card. The user will be able to download the saved data when needed. The data can be viewed by using software like Microsoft Excel, web browser and others. The sensor will display the data in a friendly manner on a computer display system. Intelligent device called Arduino microcontroller is used in this project in order to perform some processing on the data collected from the sensors. This device can be used in other application and it is smaller and cheaper than a computer. The portable monitoring system with logger operated using battery to monitor humidity and temperature. The portable humidity and temperature monitoring system with logger also have a system to save battery energy usage and also have the system to detect microSD card placed in the microSD shield. The light emitting diode (led) will alert user with blink when the microSD not place in the microSD shield. Relative humidity, temperature measurement and monitoring are very useful for the purpose of analysis.

TABLE OF CONTENTS

ACKNOWLEDGEMENT.....	i
ABSTRACT.....	ii
TABLE OF CONTENTS	iii
LIST OF FIGURES	v
LIST OF TABLES	vi
ABBREVIATIONS	vii
1.0 INTRODUCTION.....	1
1.0 INTRODUCTION.....	1
1.1 BACKGROUND OF STUDY	1
1.2 PROBLEM STATEMENT	2
1.3 OBJECTIVES	3
1.4 SCOPE OF PROJECT	3
1.5 THESIS OUTLINE	4
2.0 LITERATURE REVIEW	5
2.0 INTRODUCTION.....	5
2.1 MICROCONTROLLER	5
2.2 ARDUINO	7
2.3 SENSOR SHT11.....	9
2.4 LIQUID CRYSTAL DISPLAY (LCD)	10
2.5 REAL TIME CLOCK MODULE (DS1307)	12
2.6 DATA LOGGER.....	14
2.7 ANALOG-TO-DIGITAL CONVERTER UNIT	14
3.0 METHODOLOGY	17
3.0 INTRODUCTION.....	17
3.1 METHODOLOGY PROCESS	18

CHAPTER 1

INTRODUCTION

1.0 INTRODUCTION

This chapter discussed the overview of the project. General information about the topics will be discussed and the advantages of the current technology will also be included in this chapter. This chapter consists of four parts which is the background of study, problem statements, objectives and the scope of project.

1.1 BACKGROUND OF STUDY

As science and technology have developed, so the need for data collection and analysis has grown. This is fulfilled, at least in part, by dedicated, microprocessor driven data loggers. The modern data logger is typically a handheld, battery operated device with a large memory, powered by the latest microprocessor technology and capable of acquiring, processing, storing and analyzing electrical signals at high speed from a wide range of sensors at regular intervals or in response to an event such as a threshold being crossed or a switch being activated.

The data logger is an invaluable tool to collect and analyze experimental data, having the ability to clearly present real time analysis with sensors and probes able to respond to