DESIGN AND CONSTRUCTION OF A TEMPERATURE MONITORING DEVICE

BY

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DECLEARATION

I OCOM FELIX declare that this research report is my original work and has never been presented to any other university for academic award.

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APPROVAL

This is to certify that the research has been carried out under your supervision and its now ready for submission to academic board of Busitema university for partial fulfilment of bachelor's degree in science and education

Superviser

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DEDICATION

I entirely dedicate this work to my beloved father Mr. Ebong Jimmy and his family who have sacrificed a lot for me as long as my academics is concerned. May Almighty God bless all of them abundantly. Amen

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With gratitude, my sincere appreciation goes to the Almighty God for the gift of a healthy life, guidance during difficult circumstances in my life. All the mercies and boundless love he has been granting to me has made me who I am now.

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TABLE OF CONTENTS

DECLEARATION ..... **i**

APPROVAL ..... **ii**

DEDICATION ..... **iii**

ACKNOWLEDGEMENTS ..... **iv**

TABLE OF CONTENTS ..... **v**

LIST OF ACRONYMS ..... **vii**

LIST OF FIGURES ..... **viii**

ABSTRACT ..... **ix**

CHAPTER ONE: INTRODUCTION **1**

1.0 Introduction 1

1.1 Background 1

1.2 Problem statement 2

1.3 Aim of the project 3

1.4 Objectives of the project 3

1.5 Significance of the project 3

CHAPTER TWO: LITERATURE REVIEW **4**

2.0 Introduction 4

2.1 Related literature 4

CHAPTER THREE: METHODOLOGY **7**

3.0 Introduction 7

3.1 Materials. 7

3.2 The working of the temperature monitoring device. 12

3.3 Writing the control program in the Arduino software 13

3.4 The construction of the hardware elements 16

3.4.1 The circuit diagram and description..... 18

CHAPTER FOUR: RESULTS AND DISCUSSION 20

4.0 Introduction..... 20

4.1 Sampling and testing of temperature monitor..... 20

4.2 Result discussion..... 20

4.3 limitations of the temperature monitor..... 23

CHAPTER FIVE: CONCLUSION AND RECOMMENDATION 24

5.0 Introduction..... 24

5.1 Conclusion 24

5.2 Recommendations..... 24

REFERENCES..... 26

LIST OF ACRONYMS

LCD liquid crystal display.

LED light emitting diode

IC integrated circuit

ID integrated development environment

LIST OF FIGURES

Figure 3.1: Arduino board and a connecting cable 8

Figure 3.2: jumper wires 8

Figure 3.3: temperature sensor DHT11 9

Figure 3.4: LCD display 9

Figure 3.5: Buzzer module 10

Figure 3.6: Potentiometer 10

Figure 3.7: Ohm resistor 11

Figure 3.8: Led 11

Figure 3.9: Bread board 11

Figure 3.10: The control program uploaded to the Arduino board 14

Figure 3.11: An error message during compilation 15

Figure 3.12: Arduino block diagram of the working of the temperature monitoring system. 16

Figure 3.13: Data flowchart for the temperature monitoring system. 17

Figure 3.14: Circuit diagram (edited from google) 18

Figure 4.1: temperature, humidity and heat index displayed on the serial monitor 21

Figure 4.2: Temperature, Humidity and Heat index displayed on the LCD 22

Figure 4.3: The temperature monitoring device working at room temperature below 30ºC 22

ABSTRACT

Monitoring system refers to a set of devices that helps to make sure that the working condition of a device or area is met, otherwise it gives an alarm for the user to adjust the device appropriately. Temperature monitoring is an important application used in almost all modern gadgets and smart homes. The system for monitoring temperature automatically can be achieved by using Arduino uno micro controller system. This project discusses the automatic alert device which is used to inform any user of the device that the temperature has reached a certain value and therefore temperature is being monitored. This makes it easy for someone monitoring the temperature of a body, temperature or a room to be informed in case of temperature rise beyond that value. Monitoring temperature manually during an experiment, boiling or any other temperature monitoring becomes easier and less time wasting while using the temperature device. This temperature monitoring device gives time for someone to do other things and be alerted only if the temperature has reached the desired value. The figures of the temperature are also displayed on a liquid crystal display and can be clearly read by the user. This temperature monitoring device helps in controlling fire outbreaks, breakage of laboratory equipment, health risks due to exposure to too much heat, heat accidents among other benefits. The device is highly efficient, portable and can simply be used by any person.

CHAPTER ONE: INTRODUCTION

1.0 Introduction

This chapter discusses the background idea under which this project is developed, the problem statement which figures out the kinds of problem this project is going to solve and how it will solve. The chapter also looks at the aims and objectives of the project.as well significance of this project that's to say the need of this project by the people in different areas is also seen in this chapter.

1.1 Background

Temperature is one of the common factors that affects our daily activities both indoors and outdoors (W Cui, 2013). It is defined as the degree of hotness or coldness of a body or an environment.

A monitoring system refers to a device or set of devices that oversees or tasked to make sure a given device or another system works at a given condition otherwise it gives an alert information in case of a deviation of the working of that device or system (Hasibuan. A, et al 2020). This monitoring device can help in many occasions to alert the users so that the y can reach to adjust or do the needful. the temperature monitoring device is more of a programable device that is able to alert in case of a deviation from a certain value of temperature a given device is set to work

In industries homes, schools and hospitals, laboratory has a lot of system which works on a specific temperature. On the other hand, human interface with the heat should be limited to a specific temperature, otherwise accidents health risk and losses may be encountered if the temperature change is not monitored. Unmonitored temperature has caused several negative impacts and accidents around the globe, this could be from superheated liquid (Reid, 1976), it could also be due that heat accumulation leads to ignition and fire outbreak (yoshitada 2009). Unmonitored temperature makes workers in industries, laboratories and homes to unknowingly get exposed to too much heat that could cause them health problems (andelmazlomi et al, 2017).

Temperature control system is an important application that are used in almost all modern gadgets around the world like smart phones computers. This idea could be used to monitor temperature in

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