# CERTIFICATE OF ORIGINALITY

We the undersigned, hereby certify that this dissertation entitled “DISTANCE MANAGEMENT OF A BASE STATION” presented by NGAI ELIZABETH ASOBI, Matriculation number FE14A153 has been carried out by her in the Department of Computer Engineering, Faculty of Engineering and Technology, University of Buea under the supervision of Dr. Tsafack Pierre.

This dissertation is authentic and represents the fruits of her own research and efforts.

**Date**:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Student** **Supervisor**

NGAI ELIZABETH ASOBI Dr. Tsafack Pierre

**Head of Department**

# DEDICATION

I dedicate this work to God Almighty for his infinite strength and knowledge He bestowed on me during the period of my project research, also to my Father: Bisong John Bisong for his unending moral and financial support, to my fellow course mates and friends for their intellectual support all throughout the conception and design of this project.

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# ABSTRACT

As more and more people rely on mobile communication in their daily lives, the smooth functioning of Mobile Communication Base Station is necessary to also ensure smooth functioning of the network. To do this, the BTS comprises many devices as such, the goal of this project is to develop a system capable of detecting faults occurring in these devices and generate alerts immediately and also to control and analyze the overall functioning of this system remotely.

The major problems encountered in such sites are fuel theft, unauthenticated entry, temperature fluctuations, unattended smoke detections, no way to check status of power supply, battery and the workability of the generator.

The system will make use of temperature sensors to detect abnormal increase or decrease in temperature outside set threshold values, smoke sensors to detect abnormal presence of smoke, PIR sensors to detect presence of human in the site, RFID authentication system.

The system uses Global System for Mobile (GSM) Short Message Service protocol to send instant messages about each activity in the cell site using a GSM modem. This information will be displayed and interpreted on a web interface running locally on a PC management office which can then be used for analyses and control.

**Keywords:** *Arduino Uno, sensors, GSM, SMS, base station.*

# CHAPTER ONE. GENERAL INTRODUCTION

**REFERENCES**