BUSITEMA UNIVERSITY

FACULTY OF ENGINEERING

DEPARTMENT OF COMPUTER ENGINEERING

FINAL YEAR PROJECT REPORT

TOPIC:

DESIGN OF A GPS AND GSM BASED WEARABLE ALERT DEVICE

BY

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DEDICATION

I dedicate this report to my beloved mother Mrs. KIGHALA FAITH. Your contribution to my education has been wonderful, encouraging and promising a bright future in my life. She has always been there for me even when the going seems toughest, I love you and may the almighty God reward you with unfathomable blessings,

APPROVAL

The Dissertation report has been submitted with the approval of the following supervisor.

Signature .....

Date ....06/06/2018.....

Mr. Arineitwe Joshua

Department of computer engineering.

LIST OF ACRONYMS

GSM	Global System for Mobile Communication.
GPS	Global Positioning System for Mobile Communication
LCD	Liquid Crystal Display
SMS	Short Message Service
WHO	World Health Organization
Tx	Transmitter
Rx	Receiver
LED	Light Emitting Diode
URL	Universal Resource Allocator
RTC	Real Time clock

ABSTRACT

Today in the current global scenario, the prime question in every girl's mind, taking into account the ever rising increase of issues on women harassment in recent past, is only about her safety and security. The only thought haunting every girl is when they will be able to move freely on the streets in the odd hours without worrying about their safety. This project describes a one touch alarm system for women's safety using GSM. In case of emergency situations, a woman will press an emergency button which will activate the GPS for location tracking and an SMS is sent to the relatives and friends of the woman along with time. This proposal document describes a quick responding, cost protection system for an individual and especially for women using which a woman in distress can call for help just with the press of a button on this smart gadget. It has the ability to help women with technologies that are embedded into a compact device. The women wearing this device as a watch or band, in case of any harassment or when she finds that someone is going to harass her, she presses a switch that is located on the watch or band, location information is sent as SMS alert to a few predefined emergency numbers and soon help is on its way!. The system allows for knowing exact location of the individual, as soon as the trigger key on the wrist band is pressed. By providing the instant location of the distressed victim to relatives and friends, the incident could be prevented and the culprit apprehended.

TABLE OF CONTENTS

Table of Contents

ACKNOWLEDGEMENT ii
DEDICATION iii
DECLARATION iv
APPROVAL v
LIST OF ACRONYMS vi
ABSTRACT vii
TABLE OF CONTENTS viii
Table of Contents viii
LIST OF FIGURES xi
LIST OF TABLES xii
CHAPTER ONE: INTRODUCTION 1
1.1 BACKGROUND 1
1.2 PROBLEM STATEMENT 2
1.3 OBJECTIVES 2
1.3.1 General Objective 2
1.3.2 Specific objectives 3
1.4 SIGNIFICANCE 3
1.5 SCOPE 3
1.5.1 Technical Scope 3
1.5.2 Geographical scope 4
1.5.3 Time scope 4
CHAPTER TWO: LITERATURE REVIEW 5
2.1 CONCEPTS, DESCRIPTIONS AND DEFINITIONS 5
2.1. 1 GPS TECHNOLOGY 5
2.1.2 GSM TECHNOLOGY 5
2.1.3 ARDUINO UNO TECHNOLOGY 6
2.1.4 GIS TECHNOLOGY 6
2.1.5 GOOGLE MAPS 7

2.2 EXISTING SAFETY SYSTEMS AND RELATED WORKS. 8
2.2.1Jivi 2010 8
2.2.2VithUapp 8
2.2.3 Bachao 9
2.2.4 iFollow Ladies Safety 9
2.2.5 Spot N Save Secure 10
2.3 EXISTING SYSTEM COMPARISON TABLE 10
2.4 THE DESIGNED SYSTEM 12
CHAPTER THREE: METHODOLOGY 13
3.1 REQUIREMENTS ELICITATION 13
3.1.1 Data collection methods 13
3.2.1 Internet 13
3.1.1.2 Library 13
3.2 REQUIREMENTS ANALYSIS 13
3.2.1 Flow charts 13
3.3 SYSTEM DESIGN 14
3.3.1 Hardware Tools 14
3.3.2 Software Tools 14
3.4 SYSTEM IMPLEMENTATION 14
3.4.1 Hardware implementation 14
CHAPTER FOUR: SYSTEM ANALYSIS AND DESIGN 15
4.1 FUNCTIONAL ANALYSIS 15
4.2 REQUIREMENTS ANALYSIS 15
4.2.1 Functional requirements 15
4.2.2 Non-functional requirements 15
4.3 SYSTEM DESIGN 16
4.3.1 Logical design of the system. 16
4.3.2 Physical design of the system 17
4.4 COMPONENTS USED IN HARDWARE DESIGN 18
4.5 CIRCUIT DIAGRAM 20
4.6 IMPLEMENTATION AND TESTING 21
4.6.1 DEVELOPMENT PLATFORMS 21

4.6.1.1 Arduino. 21
4.6.2 CODE DESIGNS. 21
4.6.2.1 The GPS code 21
4.6.3 TESTING 26
4.6.3.1 Unit Testing 27
4.6.3.2 Integration testing 27
4.6.3.3 System Testing 28
4.6.4 SYSTEM VALIDATION 28
4.6.5 SYSTEM EVALUATION 28
CHAPTER FIVE: DISCUSSION AND RECOMMENDATIONS. 30
5.1 SUMMARY OF WORK DONE. 30
5.2 CRITICAL ANALYSIS /APPRAISAL OF THE WORK 30
5.3 RECOMMENDATIONS. 30
5.4 CONCLUSION. 30
REFERENCES 31
APPENDICIES 33
Appendix 1: Message received by the rescuer 33
Appendix 2: Launching the message in Google maps 34
Appendix 3: Mapping of the latitude and longitude values 35
Appendix 4: Obtaining directions to the place of attack of a victim 36
Appendix 5: Locating of the victim of attack 37

LIST OF FIGURES

Figure4.1: Flow chart of the system 17
Figure4.2: Block diagram of the designed system 18
Figure4.3: Arduino board 19
Figure4.4: Connectors 20
Figure4.5: A schematic diagram of the designed system 20
Figure4.6: Connecting with the GPS module 27
Figure4.7: Connecting with the GSM module 27
Figure4.8: The complete and working system 28
Figure 9: Figure showing message received by rescuer 33
Figure 10: Launching of message into Google maps. 34
Figure 11: Mapping of the victim's latitude and longitude values. 35
Figure 12: Obtaining the victim's location. 36
Figure 13: Locating of the victim 37

LIST OF TABLES

Table 2.1:Comparison table of the existing systems. 10

CHAPTER ONE: INTRODUCTION

1.1 BACKGROUND

Violence against women is a significant public health problem, as well as a fundamental violation of women's human rights[1].The phrase, "violence against women" is a technical term used to collectively refer to violent acts that are primarily or exclusively committed against women. The United Nations general assembly defines "violence against women" as any act of gender based violence that results in or is likely to result in physical, sexual or mental harm or suffering to women including threats such as acts, coercion or arbitrary deprivation of liberty whether occurring in public or private life[2].

According to the reports of WHO, NCRB-social-government organization 35% Women all over the world are facing a lot of unethical physical harassment in public places such as railway-bus stands, foot paths, etc. In addition, a staggering 45.6% of women 15 years and older in Africa have experienced intimate partner violence (physical and / or sexual) or non-partner sexual violence or both, the highest prevalence in the world [3].

According to the Uganda annual crime report-2014, defilement continues to lead in sex related crimes in 2014 and 2013. A total of 12,077 were investigated in 2014 compared to 9,598 in 2013, thus giving an increase of 25.8% while 1,099 cases of rape were investigated compared to 1,042 cases in 2013 hence an increase by 5.4%[4].

Government has only provided some safety measures, but it is the duty of every woman to protect herself. Therefore, additional safety equipment is needed for women to protect themselves as we know that they (women) are not physically stronger than men to defend themselves [5].

Mobile technology is making a foray into personal safety management given the broad range of features and functions it possesses to facilitate things like capturing evidence at the scene of a crime in terms of both sound or visual evidence and also transmitting various signals for assistance[6]. In circumstances where an individual (victim) is being attacked, chances are unlikely that the victim will be able to access their mobile device and reach out for help as the attacker (perpetrator) may seize the mobile device leaving the victim with not many options to reach out for help. There are some applications currently available that may send out a text message to certain contacts when activated but have a disadvantage that if the mobile phone of

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