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FACULTY OF ENGINEERING
DEPARTMENT OF COMPUTER ENGINEERING
FINAL YEAR PROJECT REPORT

TOPIC:

DESIGN OF A GPS AND GSM BASED WEARABLE ALERT DEVICE

BY

TABALA STELLA GLORIA

REG. NO: BU/UG/2014/2010

Email: tabalastellaglosh@gmail.com

TEL NO: +256772269601/0759478485

SUPERVISOR: MR.ARINEITWE JOSHUA

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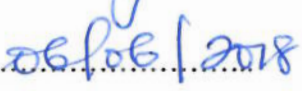
DEDICATION

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 

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.

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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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