

BUSITEMA UNIVERSITY

FACULTY OF ENGINEERING

DEPARTMENT OF COMPUTER ENGINEERING

A FINAL YEAR PROJECT REPORT

AN ANDROID BASED AMBULATORY SERVICE RESPONSE SYSTEM FOR PATIENTS WITH EMERGENCY HEART ATTACKS

BY

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**A Final Year Project Report Submitted to the Department of Computer
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DECLARATION

I, **WAFULA ELISHA BU/UP/2014/335**, do hereby declare that this Project Report is my original work and has never been published and/or submitted for any other degree award to any other university or higher institution of learning.

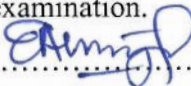
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APPROVAL

This is to certify that the project titled “An Android based Ambulatory Service Response System for Patients with Emergency Heart Attacks” has been done under my supervision and is ready for examination.

Signature.....

Date.....22-08-2019

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DEDICATION

I dedicate this report to my beloved parents Mr. **Bernard Kato** and Ms. **Florence Tumwebaze**. Your contribution to my education has been wonderful, encouraging and promising a bright future in my life. They have always been there for me even when the going seems toughest, I love you all and may the almighty God reward you with unfathomable blessings, Glory be to God Almighty.

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May the almighty God, reward you abundantly.

I also thank the almighty for the strength, wisdom and knowledge he grants me to achieve this project.

LIST OF ACRONYMS

AMI:	Acute Myocardial Infarction
BT:	Bluetooth
CPU:	Central Processing Unit
CVD:	Cardiovascular Disease
ECG:	Electrocardiography
GIS:	Geographical Information System
GSM:	Global System for Mobile Communication
GPRS:	General Packet Radio Services
GPS:	Global Positioning System
IDE:	Integrated Development Environment
iOS:	iPhone Operating System
JDK:	Java Development Kit
LCD:	Liquid Crystal Display
PDA:	Personal Digital Assistant
PHP:	Hypertext Preprocessor
SDK:	Software Development Kit
SQL:	Sequential Query Language
WHO:	World Health Organization.
XML:	Extensible Markup Language

ABSTRACT

Heart attack is a major killer disease in Uganda. Due to poor means of reporting of these heart attacks and delayed movement of victims to hospital for urgent medical attention. **An Android based Ambulatory service response system for Patients with Emergency heart attacks** assists in solving this problem.

The project is aimed at availing a well-established platform for providing ambulatory services to heart attack victims to enhance their survival with reduced delays. An ambulance was considered due to the fact that it comes with medical paramedics that give first aid and contain emergencies as the patient is taken to the hospital.

The system uses GPS technologies to provide exact location of victim that enables direction and tracking of the patient. It reports a heart immediately and allows quick response. This increases patient's chance of survival.

The patient is monitored remotely via a mobile phone hence reducing on problem of having to be in patient's vicinity.

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CHAPTER ONE

INTRODUCTION

An Android based Ambulatory service response system for Patients with Emergency heart attacks

1.0 Overview

The chapter discusses the background upon which the project was done, how the problem was identified, the objectives specified to achieve the system and the scope of study of this project.

1.1 Background

Cardiovascular disease (CVD), or disease related to heart is one of the leading causes of death in the world. Acute Myocardial Infarction (AMI) or commonly known as Heart attack is among one of the cardiovascular diseases. Acute myocardial infarction or heart attack is known as a silent killer as it has no indication when it happens. Heart attack happens promptly and might occur on a patient[1]. According to a report by the Uganda Heart Association, CVDs are second to infectious diseases in causing death in Africa, accounting to 11% of the total deaths[2].

Heart attacks are emergency medical situations and that call for urgent response towards these attacks. In regards to urgent response towards the fatal heart attacks calls for a well-equipped emergency system that includes ambulances stationed at all local health facilities, accessible to every citizen, and a team of paramedics that should respond immediately. Unfortunately for Uganda such a service is unavailable. Not even an emergency toll-free phone line is available to enable health professionals or patients at home to reach the emergency dispatch center(s)[3].

Delayed response to emergency medical situations (like Heart attacks in particular) has contributed too many fatal cases in Uganda. This is due to collapsed emergency medical services in Uganda. Less than five percent of emergency patients arrive by an ambulance because of inability to connect or link with the few available ambulances. Furthermore, one in three patients arrive at Mulago (National Referral Hospital) beyond the first hour after injury or stroke, the 'golden hour,' during which expedient treatment would greatly increase survival. The World Health Organization recommends that emergency patients should be evacuated within 5 to 17 minutes.[4].

Research has shown that new technologies for communication, such as mobile phones and the internet, but the health or medical sector have the potential to bridge many of the health challenges

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