

MALARIA DIAGNOSIS SYSTEM

CASE STUDY: NJERU HEALTH CENTRE IV

BY

KISAKYE DIANA MICHELLE

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0787610004/0759555202

kdianamichelle@gmailcom

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Supervisor

Md. Enid Naturinda


Department of Computer Studies

Faculty of Science and Education.

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DECLARATION

I Kisakye Diana Michelle declare that the work presented in this research report is my original work and has not been submitted to any university or institution of higher learning for any academic award. Each contribution to, and quotation in, this Report from the work of other people has been attributed, cited and referenced.

Signature  Date.....

Kisakye Diana Michelle
(Researcher)

APPROVAL

This report has been submitted for Examination with the approval of the following supervisor

Signature:

.....

Supervisor

.....

Date

.....

DEDICATION

I would like to take this opportunity to dedicate this report to the staff at Busitema University and the persons that were very helpful, extended their valuable guidance and help whenever required for the project which I worked on. I also dedicate this report to my Supervisor Madam Enid Naturinda for her valuable guidance and training during this project. Finally, I dedicate this report to my beloved parents Mr. Mwesigwa C. Ronald and Ms. Tushemerairwe Jolly

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ABSTRACT

Malaria is the leading cause of death among young children and the expectant mothers in Uganda today therefore, a number of control measures have been in place to curb its spread. These include using Insecticide treated nets, using control measures like slashing bushes around homes that harbour the mosquitoes and draining stagnant water around places where people sleep. It is also noted that there has been a decreasing pattern in malaria cases due to effective treatment of the malaria patients. In a scenario like at Njeru Health Centre where there is shortage of medical staff to work on the patients, a Malaria Diagnosis System was designed and implemented so that it can promptly diagnose patients. The Malaria Diagnosis system was designed and it can take in data (signs and symptoms) so that it tells whether someone has malaria or not. This system has been developed using Microsoft Visual Studio and MySQL Server. Basically, the system has one module which is the patient's module. In this module, the functions that were developed include, patient's registration, diagnosis, viewing patient's medical history and downloading a medical history note. This system was developed as one of the solutions to transfer from current way of diagnosing malaria where patients have to go to the Hospital then wait for Doctors to diagnose them, to a more systematic computerized system. The results from the system are outputted in form of a PDF and patients can carry them to the nearest Pharmacy for medical prescription.

ACRONYMS

LLIN	Long Lasting Insecticide Treated Nets
RDT	Rapid Diagnostic Tests
ELISA	Enzyme Linked Immunosorbent assays
VHW	Village Health Workers
SDLC	Software Development Life Cycle
ERD	Entity Relationship Diagram
DFD	Data Flow Diagram
SQL	Structured Query Language
ComDSTM	Community mobile phone-based disease surveillance and treatment for malaria
PDF	Portable Document Format
GB	Giga Bytes
VHTs	Village Health Workers
MDS	Medical Doctors

LIST OF TABLES

TABLE 1: SHOWING THE SAMPLE POPULATION SIZE AT NJERU HEALTH CENTRE IV -----	13
TABLE 2: SHOWING THE RESPONSE OPTIONS AND HOW THEY WERE STATICALLY WEIGHED-	15
TABLE 3: SHOWING SOFTWARE REQUIREMENTS-----	22
TABLE 4: SHOWING HARDWARE REQUIREMENTS -----	23
TABLE 5: SHOWING THE DESCRIPTION OF ATTRIBUTES OF THE SIGNUP TABLE -----	36
TABLE 6: SHOWING THE DESCRIPTION OF ATTRIBUTES OF THE DIAGNOSIS TABLE -----	37
TABLE 7: SHOWING THE FUNCTIONALITY TEST OF THE SYSTEM-----	39

LIST OF FIGURES

FIGURE 1: A BAR CHART SHOWING MALARIA PREVALENCE WITH RESPECT TO AGE	16
FIGURE 2: A COMBINED BAR GRAPH SHOWING THE NEED OF A NEW DIAGNOSIS SYSTEM AGAINST THE OLD SYSTEM AT NJERU HEALTH CENTRE	16
FIGURE 3 PROTOTYPE MODEL	18
FIGURE 4: DATA FLOW DIAGRAM OF THE MDS.....	24
FIGURE 5: CONTEXT DIAGRAM OF THE MDS	25
FIGURE 6: ENTITY RELATIONSHIP DIAGRAM OF THE MDS	26
FIGURE 7: FLOW CHART OF THE MDS	27
FIGURE 8: SHOWING LOGIN PAGE OF THE MDS.....	28
FIGURE 9: SHOWING THE SIGNUP PAGE OF THE MDS	29
FIGURE 10: SHOWING THE HOME PAGE OF THE MDS	30
FIGURE 11: SHOWING DIAGNOSIS PAGE OF THE MDS	31
FIGURE 12: SHOWING THE RESULT PAGE OF THE MDS	32
FIGURE 13: SHOWING MEDICAL HISTORY PAGE OF THE MDS.....	33
FIGURE 14: SHOWING RETRIEVED DATA OF THE MDS	34
FIGURE 15: SHOWING THE DOWNLOADED PAGE IN ADOBE READER.....	35

Table of Contents

DECLARATION	i
APPROVAL	ii
DEDICATION	iii
ACKNOWLEDGEMENT	iv
ACRONYMS	vi
LIST OF TABLES.....	vii
LIST OF FIGURES.....	viii
Table of Contents.....	ix
CHAPTER ONE	1
1.1 Introduction	1
1.2 Background	2
1.2 Problem Statement	4
1.3 The Main Objectives	4
1.3.1 Specific Objectives	4
1.4 Significance of Study	4
1.5 Scope	5
1.5.1 Subject scope.	5
1.5.2 Geographical scope	5
CHAPTER TWO	6
Literature Review.....	6
2.1 Introduction	6
2.2 The types of malaria	6
2.3 Different tests for Malaria	8
2.4 Review of challenges of some the already existing systems	10
CHAPTER THREE: RESEARCH METHODOLOGY	12
3.1 Introduction	12
3.2 Research design	12
3.3 Area of Study	12
3.4 Population and Sampling	13
3.5 Data Collection	14
3.5.1 Interview method	14
3.5.2 Observation	14
3.5.3 Review of the Existing documents	15
3.6 Ethical Considerations	16

3.7 System Methodology and Design	17
CHAPTER FOUR: ANALYSIS AND DESIGN	20
4.1 Introduction	20
4.2 Analysis of the Existing System	20
4.2.1 Problems of the Existing System	20
4.2.2 Strength of the Current System	21
4.3 System Requirements of the New System	21
4.3.1 Functional Requirements	21
4.3.2 Non-Functional Requirements	22
4.4 Software Requirements	22
4.5 Hardware Requirements	23
4.6 System Design	23
4.6.1 Architecture	23
4.7 User Interface of the Malaria Diagnosis System	28
4.7.1 Login Page	28
4.7.2 Sign up Page	28
4.7.3 Home Page	29
4.7.4 Diagnosis Page	30
4.7.5 Result Page	31
4.7.6 Medical History Page	32
4.7.2 Download Page	34
4.8 Description of the database Attributes	36
4.8.1 Table Name: Sign up Table	36
4.8.2 Table Name: Diagnosis Table	37
CHAPTER FIVE: IMPLEMENTATION AND TESTING	38
5.1 Introduction	38
5.2 Implementation	38
5.3 Testing	38
CHAPTER SIX: CONCLUSION, LIMITATION OF THE STUDY, SUMMARY AND RECOMMENDATIONS.....	41
6.1 Introduction	41
6.2 Conclusion	41
6.4 Limitation of the Study	42
6.5 Recommendations	43
REFERENCES.....	44

CHAPTER ONE

1.1 Introduction

Public health is an important medical and social concern in the community (Abay, 2017). There has been a constant struggle to fight against any diseases that have been attacking the human beings (Samuel Harrenson Nyarko, 2014). However, we still see that emerging pandemic and epidemics are always challenging our capabilities and understanding despite our struggle to fight them (Charles Okot Odongo, 2016). Considering tropical diseases in particular, they have claimed more lives of people each year and are now a big concern to society (Cobblah, 2014). Many more diseases are being monitored in order to reduce their spread but however cases are still being reported regularly (Charles Okot Odongo, 2016). An example of these diseases are lymphatic filariasis, leprosy, tuberculosis, sexually transmitted infections, trachoma, African trypanosomiasis, tropical diseases and among the tropical diseases is an infection called malaria (Katema, 2016).

Malaria is one of the life-threatening infections caused by protozoan parasite called Plasmodium falciparum (Simpson Nuwamanya, 2018). The basic five human plasmodium species include; Plasmodium falciparum, P. vivax, P. ovale, P.knowles, and P.malanae and the common one that cause infection being Plasmodium falciparum (N.J.White, 2008). In the health facilities that are available, it is reported that 40% of the fever is caused by malaria (F. Namusoke, 2104). As such malaria has been described as a serious global health challenge (Samuel Harrenson Nyarko, 2014). A number of studies have been conducted on malaria among children under the age of five and the findings attributed the disease to non use of insecticide treated nets by care givers (Samuel Harrenson Nyarko, 2014). It is noted that rural poverty is reason for the higher malaria cases and this is because of in adequate facilities like Long Lasting Insecticide Treated mosquito nets (A. Dicko, 2011). Studies also confirm that there are more malaria cases among children of divorced mothers than children of married

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