

TABLE OF CONTENTS

Table of Contents	v
Tables of Figures	viii
Tables of Tables	x
ABSTRACT	xi
INTISARI	xii
CHAPTER I INTRODUCTION	1
1. Background	1
2. Problem Statement	2
3. Scope of Problem	3
4. Authenticity of the Research	3
5. Research Objectives	3
6. Benefits Of Research	3
9. Research Methodology	4
9.1 Data Collection	4
9.2 System Design Approach	4
10. Thesis Organization	5
CHAPTER II LITERATURE REVIEW	7
CHAPTER III THEORETICAL CONCEPTS	14
3.1 Burundi	14
3.2 Gihosha District	15
3.3 Current Status of Telecommunication Infrastructure	15
3.4 SMS-Based e-Government System	16
3.5 E-Government Readiness	16
3.6 E-Participation	18
3.7 Public Service Delivery Channels	18
3.8 SMS Gateway	18



3.9 Short Message Service (SMS)	19
3.10 Delivery model and activities of e-Government.....	20
3.11 Non-internet e-Government	20
3.12 XAMPP.....	20
3.13 Gammu.....	21
3.14 TeamViewer.....	21
CHAPTER IV ANALYSIS AND SYSTEM DESIGN	22
4.1 System Analysis.....	22
4.1.1 Existing System	22
4.1.2 Proposed system.....	23
4.1.3 The Requirements Analysis	24
4.2 Architecture Design	26
4.2.1 User Interface Design	27
4.2.2 Use Case Diagram.....	33
4.2.3 Database Design.....	35
4.2.4 Data Dictionary	35
4.2.5 Class Diagram	45
4.2.6 Message Authenticity.....	46
4.3. Design and System Development	47
4.3.1 Work Flow Process	47
4.3.2 Activity Diagram	48
4.3.3 Sequence Diagram	50
4.4 System Testing Design	55
CHAPTER V SYSTEM IMPLEMENTATION	58
5.1 System Configuration	58
5.2 System description	59
5.3 System functionalities implementation.....	60
CHAPTER VI RESULTS AND DISCUSSION.....	77



6.1 Functionality Testing	77
6.2 Usability Testing.....	79
6.3 Portability Testing.....	83
6.4 Discussion of Results.....	86
A. Functionality Testing Results	86
B. Usability Testing Results	86
C. Portability Testing Results	86
6.5 Advantages of the proposed system.....	87
6.6 System Limitations	87
CHAPTER VII CONCLUSIONS AND RECOMMENDATIONS	89
7.1 CONCLUSION.....	89
7.2 RECOMMENDATION	90
REFERENCES	91
APENDICES.....	93