A SMART GSM BASED HOME GATE NOTIFICATION SYSTEM

By

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Declaration

I KAVUMA ASHIRAF BU/UG/2012/66…………………………….. Hereby declare that this project report is my original work except where explicit citation has been made and it has not been presented to any Institution of higher learning for any academic award.

Sign: ……………………………………..……

Date: ---05--|-06--|-2016---

Approval

This is to certify that the project report under the title *A Smart GSM Based Home Gate Notification System* has been done under my supervision and is now ready for examination.

Mr. Ssemwogerere Twaibu

Department of Computer Engineering

Sign: ....

Date: ....

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List of Acronyms

GSM   Global System for Mobile networks

GPRS General Packet Radio Service

SMS   Short Message Service

MMS Multimedia Messaging Service

CMOS Complementary Metal Oxide Semiconductor

RTC   Real Time Counter

MHz   Mega Hertz

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ABSTRACT

People waste a lot of time on the gates at homes waiting to be opened for which may even cause risks and danger. Electric bells cause a lot of delays and children can also play with them.

The system comprises of three main modules basically the central server circuit and the two wrist band circuits one held by someone at home and the other by the one coming home. The central server circuit comprises mainly of the GSM modem that sends messages to the person coming, the receivers and transmitters, the keypads and the microcontrollers.

Another part of the system of the system is LCD display that is used to display the name of the exact person who is approaching the gate and to also enter the details of a new member. With selection and casting done, the vote of each candidate increments in the database and percentage for each is calculated. Using the finger scanner, the polling assistant's thumb print is identified and is used to display the results on the raspberry pi touch screen after the casting process.

The work is arranged mainly in six chapters, Chapter one includes the introduction of the smart GSM based home gate notification system. Chapter two discusses the literature related to the system, Chapter three illustrates the methodologies used in coming up with the working prototype of the system, Chapter four includes system analysis and design, Chapter five comprises of the system implementation and testing. This is done to ensure the components functionalities and even the proper working of the entire system.

1. CHAPTER ONE

1.1 Introduction

This chapter includes the description of the background, problem statement, general objective, specific objectives, justification and the scope of the proposed Smart GSM Based Home Notification System

1.2 Background

Security at the gates of homes has posed a great challenge to most of the people in the homes. People spend a lot of time on the gates of their homes waiting to be opened for yet the people inside the gates may also be unaware of his or her presence at the gate [1]. The use of electric bells in homes has also caused some challenges in the past such as children tempering and playing with the bells and also bells are electricity powered so lack of electricity in a home may make it inactive [1].

The use of automated gates in homes has been affected by the fact that automated gate are expensive thus can be afforded by only a very few number of people mostly used for industrial purposes. Thus people who use these ordinary gates suffer problems with trying to notify the people inside the house about their presence at the gate thus delaying a lot at the gate entrance. This also exposes their lives at risk especially during the late hours of the night [2].

This project report studies and analyses the problems experienced by the people who use the ordinary gates especially when trying to notify the people inside the house about their arrival as to come and open for them so as not to waste time on the gate [3].

The project report is motivated by the desire to design and implement a smart GSM based home gate notification system that will be able to notify the people in the home about a member who is coming before he or she reaches the gate such that he or she can be opened for early enough as soon as he reaches the gate by a member in the home. This system is intended to be GSM based such that incase of any reply someone can be notified on phone before he or she reaches the gate [3].

A GSM modem or GPRS modem is a specialized type of modem which accepts a SIM card and operates over a subscription to a mobile phone. When a GSM modem is connected to a computer, this allows a computer to use the GSM modem to communicate over the mobile network. GSM modems can also be used for sending and receiving SMS and MMS messages [4].

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