

ROUTER MONITORING via SMS SYSTEM

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DECLARATION

I hereby declare that this project report entitled
ROUTER MONITORING via SMS SYSTEM

is written by me and is my own effort and that no part has been plagiarized without
citations.

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DEDICATION

Specially dedicated to
My beloved family members who have
encouraged, guided and inspired me throughout my journey of education
my friends, and my colleagues.

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In the name of Allah the Almighty and most Merciful

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ABSTRACT

Router Monitoring via SMS System is a Global System for Mobile (GSM) application that has been developed to check router information. This system is developed to reduce time usage to check status router information. From this system, user will get information automatically when router status is down. This system generate SMS alert when router status down. Router Monitoring via SMS System establish a simple monitoring system to checking router information using SMS. Router Monitoring via SMS System is developed with four modules. First module is Router Information module that registers router information, and manages the router status. Second module is Router SMS Transaction Module that manages all sending and receiving SMS. Third module is Router Alert Module that generate alert module SMS when router status that very low percentage. Last transaction is SMS Log Transaction Module that keeps all log SMS transaction when sending and receiving SMS. From this project the system that can send and receive SMS to the network engineer. System can also control status router if router status in lower percentage with SMS Alert Module.

ABSTRAK

Router Monitoring via SMS System ialah sebuah aplikasi sistem global untuk rangkaian telefon dibangunkan bertujuan untuk memeriksa log data dari router. Sistem ini dibangunkan supaya dapat mengurangkan masa untuk memeriksa log data dari router. Daripada sistem ini, pengguna akan mendapat maklumat router dengan pantas secara automatik apabila status router ditahap rendah. Sistem ini membentuk satu amaran SMS apabila status router ditahap rendah. Router Monitoring via SMS System memperkenalkan sistem monitor ringkas untuk memeriksa log data dari router. Sistem ini dibangunkan dengan empat modul utama. Modul pertama ialah Router Information module yang mengambil maklumat log data. Modul kedua pula ialah Router SMS Transaction Module iaitu modul yang memaparkan segala urusan penghantaran dan penerimaan SMS. Modul ketiga untuk sistem ini ialah Router Alert Module iaitu modul yang menyediakan amaran SMS sekiranya status router ditahap rendah. Modul terakhir untuk sistem ini SMS Log Transaction Module iaitu modul yang akan mengambil semua transaksi penghantaran dan penerimaan SMS. Daripada projek ini, sistem akan menghantar dan menerima SMS kepada Jurutera rangkaian.

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ATTACHMENT	TITLE
Appendix A	Project schedule and milestones
Appendix B	Version Control Procedure
Appendix C	System Coding

CHAPTER I

INTRODUCTION

1.1 Project Background

Router Monitoring via SMS System is a Global System for Mobile (GSM) application that has been developed to check router information. It is an effective way to help Network Engineer to check status of the Routers. Router Monitoring via SMS System purposes to simplify the router status report in quick period. User needs to insert keywords as router number to get fast check from the Router Monitoring System. On router information report those given, would meet consumer demand that is consumer get status router in that quick situation. Other than that, this system will send SMS alert to the user about router error report in low percentage. This system will maintain from administrator that was including router information status to establish router alert system. Indirectly user will check router status in short period and fast.

This Router Monitoring via SMS System develops for Network Engineer to simplify their checking router information status. Current system, router information gained at room servers or in office. It will be wasting their time to know router status although outside office or room servers. This system is generated with SMS alert when router status down. With existing it's this system, can reduce to preserve status router information. The modules in Router Monitoring via SMS System are Router Information Module, Router Alert module, Router SMS Transaction Module and SMS log transaction Module.

1.2 Problem Statement(s)

The current system, user needs to find out about the router status at the server room or office. The current system cannot help the user getting the fast report from Short Message System (SMS).

The current system cannot help user in router alert. Users have to find out all information from router status and make quick decision to control the situation.

1.3 Objectives

Upon completing Router Monitoring via SMS System, it is expected that the following objectives will be achieved:

- i. To reduce time usage to check router protocol and services.
- ii. Generate SMS alert when router status down.
- iii. Establish a simple monitoring system to checking router information using SMS.

1.4 Scope

The scopes involved for this project are as below:

- i. Router Information module
This module is to register router information, and shows the router status.
- ii. Router SMS Transaction Module
This module developed to shows all sending and receiving SMS.

iii. Router Alert Module

Generate alert module SMS when router status down.

iv. SMS Log Transaction Module

This module developed to keep all log SMS transaction when SMS sent and received.

The project scopes of this network application are specific to Network Engineer System Administrator.

1.5 Project Significance

The system will be will help user get simple information over router status via SMS. All information of software monitoring goes to be stored in a system database and manage by Router Monitoring via SMS System. Administrator will control the SMS log transaction which will be stored into the System

1.6 Expected Output

Expected output from this project is a system that can send and receive SMS to the network engineer. System can also control status router if router status in lower percentage with SMS Alert Module.

Besides that, the main output is the system will be helping Network Engineer to find out all information from router status and make quick decision to control the situation.

1.7 Conclusion

As an overall, the Router Monitoring via SMS System is developed to help the user get the quick status of router. This system actually is a new develops that is the current system is not provides SMS system to get the router status. Therefore, the system is hoped to help user in make quick decision when router information gained quickly.

From this chapter, the problem statement, objectives, scope, project significance and expected output have been identified in order to develop the system that will be used by target users. The next chapter, the literature review and project methodology will be discussed.

CHAPTER II

LITERATURE REVIEW AND PROJECT METHODOLOGY

2.1 Introduction

Literature review is a very important part that needs to be done in order to get hold of more information and findings regarding this project. By doing literature review, the original concept of what is going to be developed can be clearly defined and as the project develops, it can be seen that researches done by doing literature review is able to help a lot during progress of the project. Theories, approaches and different methods which are created and used by other people can be studied and applied in own way when all ideas are combined or added up to develop a new idea. All homework done to discover facts and findings related to the project will be in used in order to seek more ideas for building this project.

When building a system, it is important to go through a series of predictable steps so that it can ensure that the project is on track. This is known as project methodology and it acts as like a roadmap that helps to create a timely quality result. By choosing the right tactic to implement the project, sequence of activities done for phases of the project can be done efficiently.

2.2 Facts and findings

In this time now there is need for router monitoring solution to provide the mobile networking in the business. This is to provide them with instant access to enterprise, personal, and Internet information. From these facts and findings, researches are done to build Router Monitoring via SMS System which will be using SMS application.

2.2.1 Domain

Every project has its own domain. In this project, the domain for the project is Router Monitoring Application and SMS System. To be specific, these projects focus on router monitoring. That means, this project will have output of router result on how to implement with SMS application.

PRTG makes it easy to monitor bandwidth

According to Brien M. Posey MCSE (2003), PRTG is a simple utility that monitors a device such as a router or firewall and keeps track of how much bandwidth is being used by the device. Best of all, there is a free version of PRTG.

In an article published by Brien M. Posey, it says that PRTG is extremely accessible and easy to use. Although it's specifically designed to monitor routers, you can use it to monitor the bandwidth utilization of any SNMP (Simple Network Management Protocol)-enabled device. For example, you could monitor the amount of bandwidth used by a specific server, a firewall, or a wireless access point.

Brien M. Posey also sets out how to configure the PRTG those related with SNMP. Step one is to enter the device's IP address and SNMP Community String. Normally, the SNMP Community String should be "public". After entering the device's IP address and confirming the SNMP Community String, click the Connect button.

Routing in the Internet

According to Peter Burden, talks about routing in the internet are the technique by which data finds its way from one host computer to another. The first of these is necessary when an IP datagram is to be transmitted from a computer. It is necessary to encapsulate the IP datagram within whatever frame format is in use on the local network or networks to which the computer is attached. This encapsulation clearly requires the inclusion of a local network address or physical address within the frame. The second of these is necessary because the Internet consists of a number of local networks interconnected by one or more gateways. Such gateways, generally known as routers, sometimes have physical connections or ports onto many networks. The determination of the appropriate gateway and port for a particular IP datagram is called routing and also involves gateways interchanging information in standard ways. The third aspect which involves address translation from a reasonably human friendly form to numeric IP addresses is performed by a system known as the Domain Name System or DNS for short. It is not considered further at this stage.

SMS - Short but Sweet

This article by Tom Clements (2003), Short Message Service (SMS) is on the verge of becoming a big-time player in the wireless marketplace. Originally envisioned as a niche technology - as a way to squeeze more capacity out of under-utilized networks and marginally increase carrier profitability in the bargain - SMS has grown in popularity far beyond anyone's initial expectations. While chat has been the driving force behind this upsurge, there's more to SMS than transient teenage talk.

In article has published by Tom Clements, is say that, the evolution of SMS as a wireless technology and point out both the promise and the pitfalls of SMS for location-based services and wireless. SMS exists as a subset of the larger wireless domains such as GSM, TDMA, GPRS, and CDMA.