

AN ALERT SYSTEM FOR WEB SERVER

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This report is submitted in partial fulfilment of the requirements for the
Bachelor of Computer Science (Computer Networking)

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DECLARATION

I hereby declare that this project report entitled
AN ALERT SYSTEM FOR WEB SERVER

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 parents, siblings,
friends who have encouraged, guided and inspired me throughout
my journey of education. Besides that, I would like to dedicated
to my supervisor who always have passionate and guided me
While completing this project

ACKNOWLEDGEMENT

In the name of ALLAH S.W.T, The Most Gracious, The Most Merciful. Pray and peace upon the Prophet Muhammad S.A.W. With the highest praise to ALLAH, I manage to complete this project successfully. I would like to extend my sincere gratitude to my project supervisor Syarulnaziah Binti Anawar her assistance, inspiring and guiding towards the progress of this project. Obviously the progress I had now will be uncertain without her assistance.

Most of all, it is with great pleasure that we acknowledge the indulgent cooperation and continuous support to my families. Throughout the years, they have been patiently guided us in right direction and offering encouragement.

Grateful appreciation is also extended to lecturers Faculty of Information & Communication Technology Universiti Teknikal Malaysia Melaka for their support and assistance. Not forgetting all our friends especially our course mate who has helped me along the way during this project. Understanding and cooperation given by them are countless and valuable for me.

Last but not least, once again thank you to all who involved in the project for their constant encouragement during the duration of this project.

Thank you.

ABSTRACT

This project is about an Alert System for Web Server. The main purpose is to provide an alert send to the administrator email. The plug-in allow administrator get an alert about the performance or the condition of the web server at anywhere. This system will be used in servers, especially the web server. The way the system operates or works is if there are problems with the relationship or connection to the server, the system will act as an alert. Consumers who are concerned with the server will receive an e-mail that tell the problems faced by the server. Server alert systems typically used by large companies such as governments. The system is managed by the admin of a network server in particular. It requires email account of the admin and mobile device that can receive email whenever the alert is sent.

ABSTRAK

Projek ini berkaitan dengan Sistem Amaran untuk laman Sesawang Pelayan. Tujuan utamanya adalah untuk menyediakan penghantaran amaran kepada emel pentadbiran. Plug-in tersebut membenarkan pentadbir mendapat amaran berkaitan persembahan atau kondisi pada laman sesawang pelayan dimana-mana sahaja. Sistem ini akan digunakan dalam pelayan-pelayan, terutamanya di laman sesawang pelayan. Cara sistem ini beroperasi adalah sekiranya terdapat masalah-masalah berkaitan hubungan atau sambungan kepada pelayan, sistem ini akan bertindak sebagai Amaran. Pengguna yang disambungkan dengan pelayan akan mendapat emel yang memaklumkan berkaitan masalah dari pelayan. Sistem Amaran Pelayan digunakan oleh kebanyakan syarikat-syarikat seperti kerajaan. Sistem ini diuruskan oleh pentadbir rangkaian pelayan. Ia memerlukan emel akaun dari pentadbir dan peranti mobil yang akan menerima emel bila amaran dihantar.

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CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

The use of the Internet, the architecture client / server combined with the object-oriented approach has lead software development industry and the development of the system into a new era. In addition, the latest technologies like email have brought a bigger change in communication technology.

Most of the small companies who have their own server often have problems in knowing the status of their own servers. They do not put their servers in the company, otherwise they rent a place in a data center to put their server because data center provide complete equipment. Besides time constraints faced by administrators is also a key factor to the problem of small companies to know the status of their servers.

1.2 PROJECT BACKGROUND

This project is developed to minimize and simplify the administrator work. Besides that, this project can improve the communication between servers and administrator. The outcome of this project hopefully can help the administration to handling their server. This system will be used in web servers. The way the system operates or works is if there were problems with the condition of the server as high ping or close port, the system will sent an alert. Consumers who are concerned with the server will receive an e-mail that tells the problems faced by the server. Usually, server alert system used by large company such as government. The system is managed by the administrator of a network server. It needs an e-mail account of the administrator and mobile device that can receive e-mail whenever the alert is sent.

1.3 RESEARCH PROBLEM

Now days, speed of loading of site is very important. Most users do not want to waste their time waiting until the page is loaded. This usually causes by the number of users access to the site or web server reaching the limit at that time. In other words, performance of the server decreases rapidly. It also decreases the number of the user access to the site. Sometimes, the problem that many users faced when they open the web site and the timeout message occur. As an administrator, they can be at anywhere when the server performance is starts decreasing and they didn't get any alert or notification about the problem.

1.4 RESEARCH QUESTION

The developers construct some research question from the problem above as follow:

1.4.1 Slow site loading

1. How the site can be too slow for a user to browse? For example, even they got high speed internet connection, still slow to browse.
2. When the sites become slow? Its means what time the site will be slow and if there any opportunity to serve the site as usual.
3. Each site has own users. So, are usual users making the site slow or others? The site loading problem is explained in literature review phase.

1.4.2 Too many timeout occur when load the site

1. As an administrator, they must find out what causes the timeout to occur. The site load after intermittent of the timeout occurs and how it can be avoided will be explained in the literature review.

1.4.3 Administrator didn't get an alert

1. From the problem faced by the server, why the administrator needs the alert? At here, the developer can see how to propose a solution to make the administrator get the alert. Administrator needs an alert about the server in certain time rather than every time. In analysis and design phase, there will be explained about the solution.

1.5 OBJECTIVES

1. To investigate the various factor of slow site loading and site intermittent.
2. To analyze an alert system requirement and performance.
3. To implement an alert system for web server according to server performance guideline.

1.6 SCOPE

1. User Scope
 - Administrator configures the alert system in the web server.
 - Administrator get the alert in the email
2. System Scope
 - Alert system will ping and runs port scanning to check availability.
 - If the ping not success or the service ports are closed, an alert will be sent to administrator email.

1.7 PROJECT SIGNIFICANCE

This system provides facilities for the administrator where it make them easier and fast to know the status of the server when the server lost the connection to the network or the performance started decreasing. This system provide alert by sent an email to the administrator. Dot Net Technology is used to support a variety of programming languages and use different programming languages. It also allows improvements and repairs done on the system in the future.

1.8 METHOD

1. Prepare

- Preparing the project proposal and a testbed to starting the project

2. Planning

- Defining a parameters used for the measurements and the architecture of the web server

3. Design

- Design a user friendly GUI for the system using vb.NET 2008 and using Microsoft Visio to elaborate the whole system

4. Implement

- Configuration suitable code to the system and installing in the real server
- Analyzing the speed of the page loaded within a certain time and the availability of the web server using web stress tools.

5. Operate

- The web servers tested and get an alert via email.
- Returning to the previous phase if there were errors.

6. Optimize

- Give a recommendation to the organization regarding their needs.

1.9 RESEARCH IN MAP

Table 1.1 simply describe all about the research done:

Table 1.1: Simplified Research Description

RESEARCH PROBLEM	RESEARCH QUESTION	OBJECTIVE	DELIVERABLE
Slow site loading	<ol style="list-style-type: none"> 1. How to make the site fast loading? 2. When the site becomes slow to load? 3. Who always use the site? 	<ol style="list-style-type: none"> 1. To investigate various causes of intermittent, slow site loading and solutions to overcome it. 	<ul style="list-style-type: none"> • Literature Review
Too many timeout to load the web site	<ol style="list-style-type: none"> 1. What causes the timeout to occur? 2. Why timeout always intermittent before the site actually load 		
Administrator didn't get alert	<ol style="list-style-type: none"> 1. Why administrator needs alert? 2. How to make sure that administrator get alert? 3. When the suitable time for an administrator get an alert? 	<ol style="list-style-type: none"> 1. To send an alert system for web server administrator when the error occurred and performance are decreased. 	<ul style="list-style-type: none"> • Analysis & Design of the alert system
(Future Purpose) Can't control the number of user access	<ol style="list-style-type: none"> 1. How to limit user access to web server in certain time? 2. In what time, the user that access the site increasing rapidly. 	<ol style="list-style-type: none"> 1. To design system that can control the number of user access and make a graph about the time they access increasing. 	<ul style="list-style-type: none"> • Analysis & Design of the alert system

1.10 CONCLUSION

From the problem finding, the developers take out the research question about how the system can be useful and are interesting for the business purpose. The method uses to develop alert system are practically related because it more to the programming site and the availability of the web server can be analyzed after the traffic in the network been pumped.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

Previous chapter has describes about the project background, problem statement, research questions, scopes, objectives, project significance and expected output. To further the case study about the project, there are several topic will be added in this chapter. The fact findings and the methodology that used in this project will be covered in this chapter.

The research and comment that has been done before will be discovered in this chapter. It's good for understanding the topic or the idea that used for the future as a guidance when doing this project. The methodologies that will be used are the advantages to ensure the benefit from the knowledge that have been applied. By figure out the problem and do the justification can produce a solution to overcome the problem faced.

Research and problem analyze is important to realize the current stage of understanding on the related topic area in order to understand and complete this project. This can help to obtain the results that expected by having a good knowledge on the topic covered.