Website Health Checker

M. Aditi[1], P. Udhaya Rega[1], S. Karpagam[1], Dr. A. Robert Singh[2]

[1,2]Department of Computer Science and Engineering, School of Computing, Kalasalingam Academy of Research and Education, Virudhunagar, Tamil Nadu

---

ABSTRACT:- The idea of the topic is to create a website health checker. Health Check the websites and send alert messages if site is down. As soon as a problem (slow-down, outage, hacked content, etc.) is detected in any step, an Email, SMS, Voice or mobile push notifications will be immediately sent so we can rapidly correct the problem, before users are impacted. In-order to avoid such traffic and security issues.

We go for the concept called **"WEBSITE HEALTH CHECKER"**. The key aim of this is to make user-friendly, fast access of the service. This is purely a web based application that runs through online.

Keyword: Hacked, SMS Alert, Email, security issues.

1. INTRODUCTION

Employing an internet service that provides a systematic and thorough process to monitor your website is one of the most important means to ensure that it is performing at an optimum level. Generally referred to as website monitoring .Now the websites become increasingly essential for businesses, end-users and for every individuals for various purposes relying heavily on the internet for work or pleasure, the need for website monitoring has become even more crucial. With proper monitoring, companies can be assured that their website is not only up and running but is also performing in the best way possible. A website needs to be reliable and always available for a better end-user experience. Such reliability is also critical for websites that offer goods and services for smoother transactions such as ordering, electronic payments and checkouts.

Website monitoring encompasses a wide range of variables that can affect the performance of a website. These variables may include network, database and server connectivity; bandwidth and domain name system records. Monitoring may also log the performance metrics of a computing platform as it interacts with an application. The metrics can clue in developers on how the application influences infrastructure resources like random access memory (RAM), central processing unit (CPU) and disk space. The usual metrics that website monitoring commonly keeps track of include website response time, uptime, consistency, reliability and internet latency. Because performance metrics vary depending on website traffic, website monitoring services also conduct regular load testing.

2. TECHNICAL FEASIBILITY

The Technical feasibility is the study of the software and how it is included in the study of our project. Regarding this there are some technical issues that should be noted they are as follows:

- Is the necessary technique available and how it is suggested and acquired?
- Will the system provide adequate response that is made by the requester at an periodic time interval
- Can this system be expanded after this project development
- Is there a technique guarantees of accuracy, reliability in case of access of data and security

The technical issues are raised during the feasibility study of investigating our System. Thus, the technical consideration evaluates the hardware requirements, software etc. This system uses Java as front end and Oracle as back end. They also provide sufficient memory to hold and process the data. As the company is going to install all the process in the system it is the cheap and efficient technique.

This system technique accepts the entire request made by the user and the response is done without failure and delay. It is a study about the resources available and how they are achieved as an acceptable system. It is an essential process for analysis and definition of conducting a parallel assessment of technical feasibility.

Though storage and retrieval of information is enormous, it can be easily handled by flask web frame work. As the oracle can be run in any system and the operation does not differ from one to another. So, this is effective.

3. EXISTING SYSTEM

Website analyser gives a complete site analysis report .This helps to attain improved search engine visibility.SEO checker highlights the SEO issues in the website and equips with the suggestions for the errors .For example website speed test, on page SEO analysis, meta tags checking, etc..,

Tool for Website monitoring

There are various tools available in the Google .These tools are helpful to check the websites if we feel any issues in the website .The separate tools also available for check the website speed, website analysis ,website grading, meta tag checking ,etc.., The popular website checker is the Search Engine Optimization(SEO)

Search engine optimization

Search engine optimization (SEO) is the process of increasing the quality and quantity of website traffic by increasing the visibility of a website or a web page to users of a web search engine.

SEO refers to the improvement of unpaid results (known as "natural" or "organic" results) and excludes direct traffic/visitors and the purchase of paid placement.

Drawbacks

- Existing system have only online tools and applications to predict the website defects
- Manual interaction is not available in the existing system of website checker tools
- There is no single tool for predicting the website defects

4. PROPOSED SYSTEM

To overcome the issues of the existing system we came with the concept that monitor the websites and send alert messages or mail if the site goes down .It helps to correct the problem rapidly, before the user will be impacted The website checker is looking for: malformed HTML code, broken links, accessibility issues, security issues, cross-browser and cross-device compatibility issues, and more .The key aim of this is to make user-friendly, fast access of the service

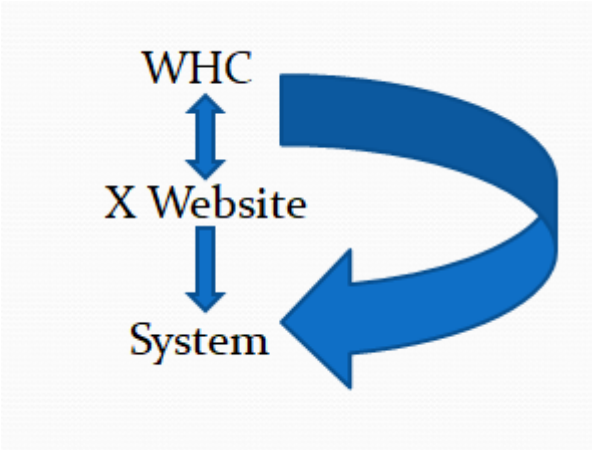
Advantage:

1) The website issues can be initially removed before it affects the entire site with the help of alert message.

2) The Website Health checker gives manual interaction to the developer.

5. SYSTEM ARCHITECTURE

A system architecture or systems architecture is the computational design that defines the structure and/or behavior of a system. An architecture description is a formal description of a system, organized in a way that supports reasoning about the structural properties of the system. It defines the system components or building blocks and provides a plan from which products can be procured, and systems developed , that will work together to implement the overall system.



- Website health checker is synced with the 'X' website by providing input to the WHC application.
- The WHC application will start to monitor the 'X' website continuously by running behind the website.
- It will send http request to the website continuously in the given interval time.
- It check for response time of http request between 200-300,if the response time goes beyond 300 or below 200 , it send an alert message to linked Mail id or Mobile number .

6. MODULES DESCRIPTION

Login Module: This module displays a username and password login form. It also displays a link to retrieve a forgotten password. If user registration is enabled (in the Global Configuration settings), another link will be shown to enable self-registration for users.

Add Domain Module: In this domain we can add many websites as our wish whether the website is active or not .If the website is not active then it will not receive any notification from the application. It can monitor all the websites routinely which we have added to this application

View Domain Module: In this view domain module we can see all the websites that we have added in this application .In this we also view the websites status whether the website is active or not and it faces any troubles. This module is fully for our reference to know how many websites added in our account for monitoring and this is also used to check that we have added a correct website in our account or not.

Notification Module: Through this notification module the application send a notification to our registered whatsapp number or to a registered mailid. The application monitors

the websites regularly and sends a notification if any issues found in the website through the notification module.

7. SYSTEM IMPLEMENTATION

Implementation is the stage in the project where the theoretical design is turned into a working system. The most critical stage is achieving a successful system and in giving confidence on the new system for the users, what it will work efficient and effectively. It involves careful planning, investing of the current system, and its constraints on implementation, design of methods to achieve the change over methods.

The implementation process begins with preparing a plan for the implementation of the system. According to this plan, the activities are to be carried out in these plans; discussion has been made regarding the equipment, resources and how to test activities.

The coding step translates a detail design representation into a programming language realization. Programming languages are vehicles for communication between human and computers programming language characteristics and coding style can profoundly affect software quality and maintainability. The coding is done with the following characteristics in mind.

- Ease of design to code translation.
- Code efficiency.
- Memory efficiency.
- Maintainability.

Implementation is the stage of the project when the theoretical design is turned out into a working system. Thus it can be considered to be the most critical stage in achieving a successful new system and in giving the user, confidence that the new system will work and be effective.

The implementation stage involves careful planning, investigation of the existing system and it's constraints on implementation, designing of methods to achieve changeover and evaluation of changeover methods.

7. SYSTEM TESTING

System Testing is an important stage in any system development life cycle. Testing is a process of executing a program with the intention of finding errors. The importance of software testing and its implications with respect to software quality cannot be overemphasized. Software testing is a critical element of software quality assurance and represents the ultimate review of specification, design and coding. A good test case is one that has a high probability of finding a yet undiscovered error.

The purpose of testing is to discover errors. Testing is the process of trying to discover every conceivable fault or weakness in a work product. It provides a way to check the functionality of components, sub assemblies, assemblies and/or a finished product it is the process of exercising software with the intent of ensuring that the Software system meets its requirements and user expectations and does not fail in an unacceptable manner. There are various types of test. Each test type addresses a specific testing requirement.

Testing is the set of activities that can be planned in advance and conducted systematically. Different test conditions should be thoroughly checked and the bugs detected should be fixed. The testing strategies formed by the user are performed to prove that the software is free and clear from errors. To do this, there are many ways of testing the system's reliability, completeness and maintainability.

The important phase of software development is concerned with translating the design specification into the error-free source code. Testing is carried out to ensure that the system does not fail, that it meets the specification and it satisfies the user. The system testing was carried out in a systematic manner with a test data containing all possible combinations of data to check the features of the system. A test data was prepared for each module, which took care of all the modules of the program.

System Testing is an important stage where the system developed is tested with duplicate or original data. It is a process of executing a program with the intent of finding an error. It is a critical process that can consume fifty percent of the development time.

The following are the attributes of good test:

- A good test is not redundant.
- A good test should be "best of breed".
- A good test should be neither simple nor too complex.

Unit Testing:

In the unit testing the analyst tests the program making up a system. The software units in a system are the modules and routines that are assembled and integrated to perform a specific function. In a large system, many modules on different levels are needed. Unit testing can be performed from the bottom up starting with the smallest and lowest level modules and proceeding one at a time. For each module in a bottom-up testing, a short program executes the module and provides the needed data.

Integration Testing:

Integration testing is a systematic technique for constructing the program structure while conducting test to uncover errors associate with interfacing. Objectives are used to take unit test modules and built program structure that has been directed by design. The integration testing is performed for this Multi Cloud when all the modules where to make it a complete system. After integration the project works successfully.

Validation Testing:

Validation testing can be defined in many ways, but a simple definition is that can be reasonably expected by the customer. After validation test has been conducted, one of two possible conditions exists.

- The functions or performance characteristics confirm to specification and are accepted.
- A deviation from specification is uncovered and a deficiency list is created.

Proposed system under consideration has been tested by using validation testing and found to be working satisfactorily.

For example, in this project validation testing is performed against module. This module is tested with the following valid and invalid inputs for the field id.

Black Box Testing:

This method treats the coded module as a black box. The module runs with inputs that are likely to cause errors. Then the output is checked to see if any error occurred. This method cannot be used to test all errors, because some errors may depend on the code or algorithm used to implement the module.

9. METHODOLOGY

We use the Flask Web Frame Work to create the Web Interface. The Web Interface is used to get the input from the user .Then we run the cron job in the background that will send the icmp request to the website's server and when the site is getting down .If there will be no reply then we need to trigger the message alert

CONCLUSION

Website monitoring tools measure response time of all critical transactions on your website and tracks down elements responsible for such delays to help you troubleshoot issues much faster before it affects end users. Experts say that a response time of 3 seconds or lower is an indicator of ideal website performance. Any downtime could directly lead to loss of revenue and customer dissatisfaction which is why a real time website monitoring application is designed A "Website Health Checker". Using this website monitoring application will guarantee maximum availability and performance, so your clients are engaged at all times.

Future Enhancement:

Rich Communication Services (**RCS**) is a communication protocol between mobile telephone carriers and between phone and carrier, aiming at replacing SMS messages with a text-message system that is richer, provides phonebook polling (for service discovery), and can transmit in-call multimedia. It is part of broader IP Multimedia Subsystem. It is also marketed as **Advanced Messaging**, **Chat**, **joyn**, **SMSoIP**, **Message+ and SMS+**.

In future we can implement this method even though it is costlier than the proposed system.

REFERENCE

1. Brin, S. and L. Page (1998), The Anatomy of a Large-Scale Hypertextual Web Search Engine, In: Proceedings of the Seventh International

2. Chakrabarti, S., van den Berg M., and Dom B., (1999). Focused crawling: a new approach to topic-specific web resource discovery.

3. De Bra P. M. E. and Post R. D. J. (1994) Information retrieval in the World Wide Web: Making client-based searching feasible. In Proc. 1st International World Wide Web Conference. . . . .

4. Dorosz, K. Focused crawling strategies for information monitoring in the Polish language Internet. PhD thesis, AGH-UST, 2012.

5. Hersovici M., Jacovi M., Maarek Y. S., Pelleg D., Shtalhaim M., and Ur S., (1998) The shark-search algorithm - An application: Tailored Web site mapping. In WWW7.

6. Website Performance Monitoring reference link https://www.pingdom.com/ .