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A New Criteria for Evaluating Quality Educational Websites

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***Abstract*— This paper presents how the criteria for quality of education website have impact on education operation by generated a new reliability criterion to enhance quality of these websites this research focused on the importance the structure of educational website application and the building architecture of these websites if free of faults with compared the it's fault tolerant, so the establishment of these sites without a censor lost confidence and credibility in many locations, and therefore appeared to assess the sites and measured to ensure its credibility**,

Keywords—Reliability ; Website Quality ; Fault Tolerance ;

I. INTRODUCTION

Referring to refere [1] kapon study (kapoun, 1998) indicated that there were five criteria for evaluating web pages in general, namely, accuracy, responsibility, objectivity, modernity and moderation [2].king's study (1998), which described the main pages of twenty-two hundred libraries in the library research association, he tested the site's introduction and design, and divided its result into seven sections: backgrounds, title, end, body, page and numb steps to access the library page from the organization's sites and the domain name provided on the server the Clausen study [3](Clausen, 1999) is one of the distinctive studies that confirms the sites library on the internet must be overwhelmed by the high-quality services and sources that are offered for users, the Clausen division criteria that can be achieved into six sets design, structuring, information, quizzes, navigation, technical impression, and general assessment. the criteria for this study were applied to three sites of academic libraries in Denmark the urgent need to further evaluate the websites of libraries on the internet to develop the uses of technologies information and uses of clients as the study indicated the need for library sites to update at regular intervals to maintain location and objectives focused on the Readability of educational .

II WEB QULITY

The reliability for web application and functionalty of websites are desicribed breifly in the following points:-

A. *Reliability for web application :* can be defined as the probability of failure-free web operation completions. we define web failures as the inability to correctly obtain or deliver information, such as documents or computational results, requested by web users. this definition conforms to the standard definition of failures as being the behavioral deviations from user expectations [4]. based on this definition, we can consider the following failure sources: host, network, or browser failures, that prevent the delivery of requested information to web users. these failures are similar to failures in regular computer systems, network, or software, which can be analyzed and assured by existing techniques [5].

B. *Functionalty of websites :*[6] functionality - a set of attributes that bear on the existence of a set of functions and their specified properties. the functions are those that satisfy stated or implied needs. reliability - a set of attributes that bear on the capability of software to maintain its level of performance under stated conditions for a stated period of time

III. RELIAIZING OF RELIBITY WEB SITES

To access a high-quality website, there must be a direct link between the processes and the product "website" in software science, the individual skills and experience gained by system developers are often the basis for high quality web sites so that is important prudent to take quick decisions in building the websites of the institutions and companies, which in such a case that we offer related to the sites that are particularly destructive educational the main objective of this evaluation is to estimate how much defect the web site may contain from a lack of cohesion and bladder in the construction where all the largest size of the site and the marquee has increased the complexity and the tendency of its components to error . so should be consider the in the following points:-

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A. rebalie Components in Series

If the components are arranged sequentially, the website will works .

< operation1 > → < operation2 > → <operation3> <operation4> → operation ….N >

B. software quality factors:

all of these measuring bellow lead us for [7] software quality factors which are following :

Correctness:
– Accuracy, completeness of required output
– Up to datedness, availability of the information
Reliability
– Maximum failure rate
Efficiency
– Resources needed to perform a software function
Integrity
– Software system security, access rights
Usability
- Ability to learn, perform required task

IV **ANALYZING WEB FAULTS FOR RELIABILITY EVALUATION**

for testing websites to butting the factor of reliability criteria select more than 200 education web location witch divide in the top 10 of the rank universities for more than 20city taken from the (Web Metric.com) rank website. the test collected the main elements in quality misusing as following :

. Language use

. Number of error

. time execution

A. evaluteing web site

The test quality is based on two main things as clarified in the following points: :

- *Time excitation* : it's time The Internet browser waits while the page is reloaded or the web pages are loading.
- *number of error* : website error in the computing world is to commit flaws in the design phase of the software or while writing it in a programming language. This error often results in bad or unexpected performance .

The study was based on a set of hypotheses aimed mainly at learning the effect of quality in the marketing of educational web site . The hypotheses of the study were formulated as follows:

1. There is a relationship between safety and quality of educational websites .

2. There is a relationship between marketing strategy and the quality of educational websites

V. BASICS of RELIABILTY ANALYSIS

Both the failure information and the related workload measurements provide us with data input to various software
reliability models [8], [9]. The output of these models can help us evaluate the Web software reliability and the potential
for reliability improvement. Two basic types of software reliability models are: input domain reliability models (IDRMs) and time domain software reliability growth models (SRGMs) [9], [10]. IDRMs can provide a snapshot of the Web site's current reliability. For example, if a total number of f failures are observed for *w*orkload units, the estimated reliability R according to the Nelson model [11], one of the most widely used IDRMs, can be obtained as:

$$R= (n-f)/n=1-(f/n) =1-r$$

Where r is the failure rate, which is also often used to characterize reliability. When usage time ti is available for each
workload unit i, the summary reliability measure, mean-time between
failures (MTBF), can be calculated as:

$$MTBF= (1/f) \Sigma tiI$$

When the usage time it is not available, we can use the number
of workload units as the rough time measure. In this case,

$$MTBF=n/f$$

Cascading style sheets (CSS) is a language that applies presentation (styling, layout, animation) to markup content (such as html, xhtml, svg or xml). It is one of the main components of the open web platform.
CSS allows you to style your content through a set of selectors and properties [12, 14].

- *first version*: the CSS 1 recommendation was described by Hfkon wium lie and Bert bos, and first published in 1996.
- *current stable version*: the CSS 2 recommendation was first published in 1998, but was not completely finished until 2011, despite being effectively stable for a number of years before that. Several modules from css3 are also stable as of the time of writing (Dec2012).

from CSS can do the validate to many of the educational website from accesses to the frailer and defect of the website then valid these website if have the reliable characterize to access to the high quality level .

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the most educational websites are written by HTML pages, and they seem to display okay, but there are a few things not quite right with them. to ensure that these pages and evaluating the quality level most measuring them by reliability technical's measuring .[15, 16].

VI. FAULT TOLERANCE FOR RELIABILITY MEASURING

The work in this paper is based on the creation of a new standard for measuring reliability .
This criterion was issued based on the study and analysis of the percentage of errors in the websites programming in those sites. The sample of the study was based mainly on educational sites such as universities. We examined this phenomenon, which included more than 100 websites and achieved the amount of error by CSS validation .[11, 15].

In Section 5 we presented previous models through which the reliability of Web applications was measured based on the number of failure rate occurred. But in this work , it is based on Errors rate occurred . and not every errors is a measure of the unreliability of the site and not of its quality. There are errors that are allowed for the system to be highly resilient in all environments. This standard is known [13]fault tolerance
In the construction of the websites there are very little errors do not trust the reliability of the pages and not on quality, but that the increased reduction may expose those sites to the risk of being unreliable and quality.

To build web page need of the thousands, hundreds of markups in thousands of lines in this work was extracted how much size errors in. to know the reliability and quality of these websites through use of the MODE of error Table 1 the error type for fault -tolerance .

Table 1 Illustrates type fault -Tolerance in HTML language

NO	TYPE
1	end-tag-with-attributes
2	duplicate-attribute
3	eof-in-script-html-comment-like-text
4	missing-attribute-value
5	missing-whitespace-between-attributes
6	missing-whitespace-between-doctype-public-and-system-identifiers
7	nested-comment
8	noncharacter-character-reference
9	null-character-reference

Fault Tolerance Reliability Measuring (FTRM) is depending of the MODE of error observing from the website if the value is one of the types in table 1 so the website is reliable .the figur1.present the rate of website error this result occurred from the CSS validation software of variant educational website.
From the following chart we discover the percentage of allowed errors based on the type of it and these errors do not constitute risk to the feasibility of it's quality cause in more than 2000 line to build those websites we may find between 20-25 mistakes allowed and the compiler avoid These implementation process, So you consider them to be reliable and no risk in the quality of the these websites in the validity , but either when the number of the fault tolerance errors is vary high and observe the warring of faults from different types of warring error so the quality of the websites is very low and the rate of the error is more then 29 or over of 30.

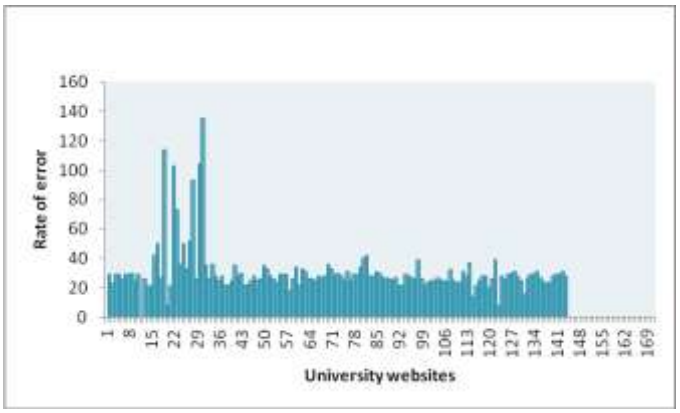

Fig .1 Rate of Reliability Error

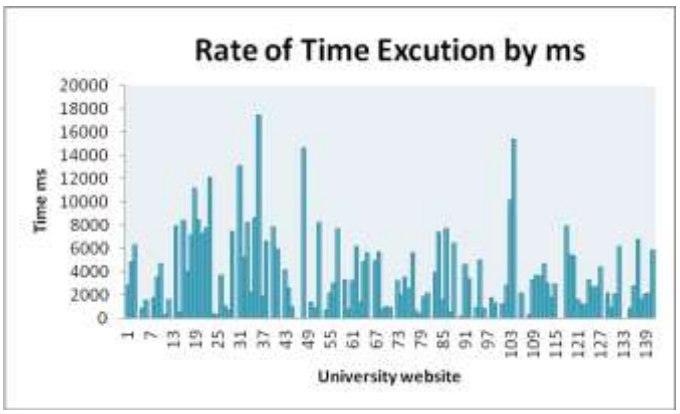

Fig 2 Illustrates the Rate of Time Exaction

to builder websites need the thousand or hundred of markups line And the number of lines of the marquee is based on the time of implementation and monitoring mistakes in figure 2 show the rate of the time execution of websites of some universities base on the line of markups and tags on HTML language.

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VII CONCLUSON

By analyzing the unique problems and challenges for the Web environment, we have developed an approach for Web software reliability evaluation based on information extracted from existing Web server logs. By using existing tools to extract usage information, we have kept the additional effort for implementing our approach to a reasonable level. We developed utility programs in CSS to analyze Website error.

Assessing the operational reliability for Websites: When used with fault tolerance to estimate failure rate to get the reliability, and the quality must be in concepts of error-free Software and concentrate on complex activities and used to complete in time. As discussed in the previous sections of this paper the Software quality activities, principles, factors and its methods are implemented in the early stages of reliable websites , because of this activity the web developer get the knowledge about the websites what it needs going to develop, it may reduce the rework and failures of the websites. Nowadays all the software development industries are implementing the SQA component to get quality software .

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