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Web Analytics: Taking Thoughtful Decisions Based On User Information and Behaviour

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ABSTRACT: Analytics forms basis of decision making in process and in today's online world web analytics is the tool to understand user behaviour and take critical business decisions accordingly. Myntra.com, India's Leading Fashion Store decided to go App Only(it shut down its desktop website and continued with Mobile App Only) based on the analytics of user behaviour. Till Feb 2015 80% of Myntra's User Traffic and 70% of Orders came from the mobile platform, so based on this analytics Myntra decided to shut down their website and continue with Mobile App. This shows the power of Analytics as the web analytics are helping business organizations to take thoughtful decisions based on the analytics the received from their web applications.

Not only user views or hits are part of Web Analytics Application but also gathering information about usability and conversion success rate of a website are important. This reflects the kind of experience the website visitors have on the website. The success of an E-Business Applications relies on the usability and conversion rate of the website. The higher the usability and conversion rate of the application, the better the it can be commercially . Web analytics Application or Tools consists of a techniques to provide metrics about users visits. This paper aims at exploring the importance of web analytics to increase the website's usability and success rate. This can be used by Businesses to enhance the usability, conversion success rate and SEO(Search Engine Optimisation) ranking of their websites and make the websites to sell rather than to simply exist.

KEYWORDS: Web Analytics, World Wide Web, user behavior, web usability, conversion rate, SEO, Web Analytics, Page Views, Time on Site, New Visitors, Return Visitors.

I. INTRODUCTION

Every day business organizations, social groups, organizations etc. are tapping into the vast expanse of Internet and using the World Wide Web (www). Using Internet has become an integral part of the modern life and users often visit different websites on daily basis. The Internet and the World Wide Web(WWW) has continued to grow at very rapid speed in both the volume of traffic and size and complexity of Websites[2]. Now a days Ecommerce has taken the frontal seat and more and more users are taking the e-route to their favorite shopping destination. More and more people are hooking on to internet even for their daily small needs. And for website administrators and web master, it is important to understand what users are visiting on their website, from where are they visiting and which is the most favorite page or product of the users on their websites. All this information will help administrators to market their websites and products effectively and focus on the right products and right promotions. If a product is being less purchased from a website Administrator can check analytics to understand in a better way that why people are less buying the product, is there a visibility issue(which will mean that less number of visits to that products page) or a pricing/quality issue(which will come if there are hits to that particulars products page but not getting converted into purchases).

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A website which cannot effectively communicate with its web users does not serve its purpose to the organization. Iwaarden et al. [4] reported that 70% users leave the website if the page response exceeds 12 seconds. The communication capacity of a website can be gauged from the usability and conversion rate of the website. The International Standards Organization's ISO9241 standard, defines usability as the "effectiveness, efficiency and satisfaction with which specified users achieve specified goals in particular environments"[5].

Website's friendliness and usability is the measure of the ease of use on a website by its visitors. Web usability is about making the website interface in such a way which is easy and logical for users, so that they can enjoy using the website and they can utilize it to find what they need[6]. Web usability is about making your website in such a way that your site users can find what they're looking for quickly and efficiently[7]. Let's take an example, the key aspect of website usability is the ease of navigation through the website interface. A website clearly representing information and clean Graphical User Interface with a logical progression of information and products (in case of ecommerce websites) tends to appeal to the web users and therefore has high usability. On the other hand a mal functioning website is usually with tangled information and links, where it is hard to move around, presents a challenge for the website users to access and retrieve the information they want and therefore has low usability and provide less visibility to the key areas or products.

The website's usability and conversion rate go together hand in hand. The core difference between a website that sells and a website that simply exists is the good conversion success rate. A conversion success rate is a measure of number of potential visitors performing a desired action, whether the action is purchasing a product, filling information into a form, or some other goal of the web page[8]. For example, if a particular webpage has 500 visitors via a pay per click ad, and five of those 100 visitors buys the product the website sells, then the conversion rate for that specific ad is one percent. According to the Web Analytics Association, Web Analytics (WA) is the measurement, collection, analysis and reporting of Internet data for the purposes of understanding and optimizing website usage[10]. Web Analytics can be defined as the act of increasing a website's persuasion and relevancy to achieve higher conversion rates[10]. Web analytics consists of a series of metrics and techniques which are used to analyze the performance of a website. Web analytics can, thus, be used to measure the website's usability, conversion rate and user behaviour.

3. What is measured in Web Analytics?

Web Analytics tool is used to measure the metrics of the web user's experience of the interaction with the website.

The Parameters reported by the system are:

- Siteurl
- Pagename
- Sessionid
- Ipaddress
- Browser
- Useros
- Mobilebrowser
- Otherdet
- DateTimeStamp
- Referring URL

II. WEB ANALYTICS METRICS TO INCREASE WEBSITE'S USABILITY

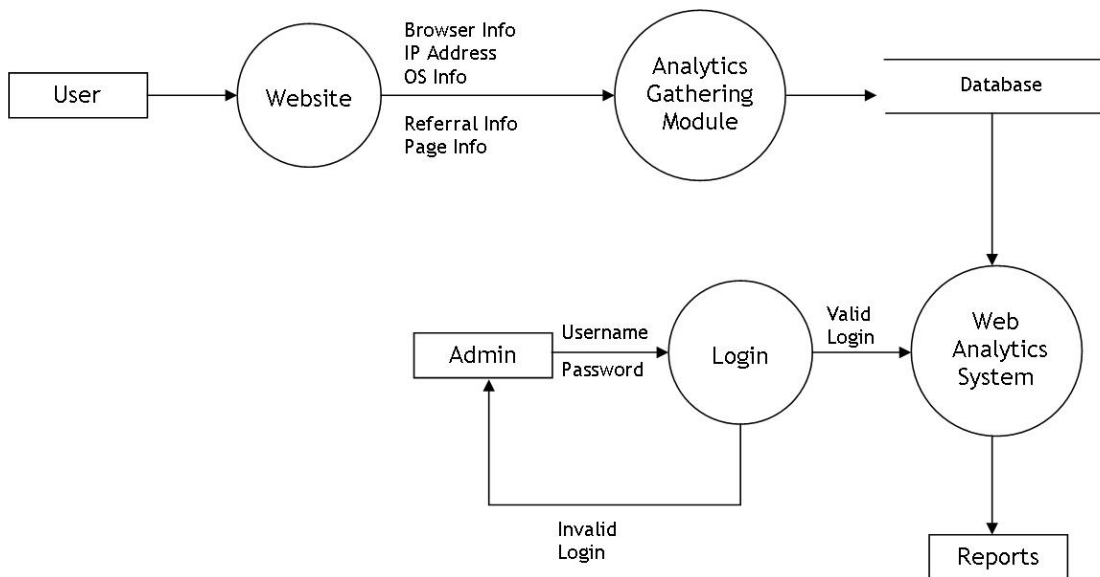
The website's usability measures the quality of the website user's experience of the interaction with the website. The usability of a website directly affects the kind of the experience website users have on the website. It also signifies how user friendly the website is. The information usefulness of a website and the web users' trust in the company are significantly related to the perceived usability of the website[11]. Therefore, for a website, usability is a necessary for the proper survival and marketability of the website. Usable website can provide great benefits to the website as well as to the business.

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If the website users find difficulty in using a website or get lost in navigating the website, they leave the website then and there. If the web users find a website's information hard to understand or the website doesn't help them in doing what they intended to do they depart. The website users do not invest time in order to figure out a website's interface so they can leave from the home page only without navigating further. In the actual sense, website usability emphasises on defined experiments. One method is user testing in which the user accomplishes some given tasks. It can be accomplished with the think-aloud protocol while the user is browsing through the website. Another method is Usability-expert walkthroughs[13]. Both these methods are useful for the contextual design of individual software and in software developments for the mass market, where the user is unknown. However, both these methods are extremely resource time and consuming. There are several other methods that can be used to automate usability evaluation. Most of these methods belong to one or more of the three categories namely usability data capturing, analysis or critique. A survey is given in[14]. For the web usability evaluation tools, there is a large range of methods from syntax-checkers over web page design advisors[15] to analyzers like WebTANGO[16], which compare the characteristics of web page objects with empirically found metrics. Another method is WebRemUSINE[17] which distinguishes the recorded real user interaction information with the task model of the web application. Other web usability evaluation tools include like Bobby[19], A-Prompt[20], WebSat[21], and 508 Accessibility Suite[22]. A comparison of some of these tools is provided in[23]. The objective of Web Analytics is to understand and improve the experience of online customers, while increasing revenues for online businesses [10]. Figure 1. These web analytics metrics are as follows:



Our Approach

Our Approach is to build a Web Analytics tool that will help Web Administrators to understand user behavior in a better way. Our Approach involves developing two Modules, one for gathering data from the websites and other for reporting the data in an analysed format to the administrator.

Analytics Gathering Module: We will add a code into each page of the website, we intend to analyse and the code will report all the user parameters to our centralized database. The Parameters reported by the system are:

- Siteurl
- Pagename
- Sessionid
- Ipaddress
- Browser
- Useros
- Mobilebrowser

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- Otherdet
- DateTimeStamp
- Referring URL

Web Analytics Admin: This module enables admin to access analytics of their website. It is further divided into sub modules:

Login Module: This module provides access to the admin of particular website to the analytics to that particular website only and prevents any unauthorized access.

Dashboard: This module provides access to the quick analytics like total hits, total mobile hits etc.

Hits Module: This provides admin with comprehensive list of user hits on the website.

User Behaviour: This Module analyses users behavior in a particular session like which pages he visited and how he visited and when he left the system.

Data wise analysis

Browser/OS wise Analysis

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