Web Usability: Issues, Challenges and Solutions

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ABSTRACT:
The usability of web site is an important quality factor for the success or failure of web site. Web users face various problems during the navigation of web sites. How to address these problems is an important question in human computer interaction research. The challenges to developing usable web site are still there. The main goal of this present paper is to present the challenges facing by users of web sites. Paper discusses various issues and challenges related to web usability during navigation and information searching from sites. Paper also performs analysis of numerous factors of web usability and gives proposed solutions for the challenges faced by these factors.
Keywords – GUI, Design, Model, Quality, URL, Usability.

I.   INTRODUCTION

Usability is one of the key factors of software quality. It is a measure of how easy something is to learn and use. It's also described as a measure of how well something allows a person to do what they want to do. It is the science of making technology work for people. Basically to achieve objectives it is the way by which the products can be used by the designated users, efficiently, effectively and satisfactorily. Since last decades, the increase in the exploration of web site is growing in exponential ways in terms of personal as well as commercially. The web usability has multiple components and has many attributes to look upon which are related to the amount of time needed to learn to navigate site, how quickly is the desired goal achieved, and even the user's perceptions, feelings and opinions matter. It is very much related that how is easy or difficult it is to fulfill the tasks when users face the design of web site for the very first time. After learning the designs, then next thing for user is to quickly work on these designs and if, they haven't visited for long, then how well are they can attain their proficiency. So web site should be pleasant in use. Also, it is of high importance that the explored web site fulfilling the user's objectives and should have

all the required features [1]. It should be taken care of that the person who is average can easily use the website or anything else without getting tired. So web usability is very important to fulfill the purpose of stake holder. But there are several challenges to develop good usable web sites.Present paper discusses several issues and challenges related to web usability. Analysis of various web usability factors is also presented. Rest of paper is organized as: Section 2 presents web usability and its significance. Section 3 discusses numerous issues and challenges related to web usability. In section 4, the proposed solution about good and usable web design is presented. Section 5 describes the conclusion of the paper.

II.   WEB USABILITY

The success or failure of web site depends on that user should not face any difficulties during the navigation of sites. It is also important that one could work on a site for long and with comfort. Navigations and searching of text/images should be easy. It matters that how easy or hard it is to use a site and to work on. Websites may work well but also the people of average ability and intelligence could run the site and use it. So, it should be easier by taking consideration the ability of such users also. Web usability is based on certain important criteria's and that could be: how could one able to search for various areas in the website. For users, it is must that there is an easy navigation and search for the needed information [11].

2.1 Significance of Web Usability

If website will be difficult to use, user will face many difficulties. Then it is very often and very obvious that user will leave that page or site and will look for new one. As there is so much of competition the site on the same topic improved version is just a click away. Actually the problems comes like: the homepage fails to state what all it can offer, what users can do on the site, information may be hard to read, may not accomplish users key questions [19] .

This is how one get to know that what actual importance of usability is. So, it is much needed to know about web usability, its importance, its issues, the problems user faces, and what could be

its solutions and how could one improve the site so that the users can spend much time with ease.

III.   ISSUES AND CHALLENGES

There could be lot many issues and problems while working on sites. Sometimes it happens that users navigate site only for few seconds. What could be the reasons for this? While working on sites, one may deal with lots of problems and which could be:

- Some sites never explain or tell us that what the site is about and what want to tell the users.
- Difficult in navigation, as the navigations labels and buttons can't be found so easily.
- Inappropriate design results in poor readability.
- Irrelevant, because the pages were designs only keeping in mind a company's needs
- Complexity, the designer actually wants and sees that the user should learn a bit about the site.
- Inaccessibility, as the site which has been designed can't be accessed by the users [2].

3.1 Navigation: Often when we are lost we use navigation to help us and guide us in the right direction [14]. But in some websites navigation system is very poor, the bars and buttons could not be searched and not able to clearly links to each part of the site. So for this, the site is poor if they do not have an easy and common navigation system.

3.2 Readability: Sometimes, the text is not readable either it is very small or the font colors, style and font size which are used are very poor [12]. When the text is not understandable it is very difficult to use site and users leave the page.

3.3 Poor Image Implementation: No need to full the websites with lots of images in it instead use images with text, underline the important importance of the image shown and text descriptions should be provided.

3.4 Browser incompatibility: It should be tested in different web browsers.

3.5 Overuse of Multimedia: Overusing multimedia implementations such as Flash can render a site un-viewable by home. Avoid overusing ads too many ads make somehow difficult for the users to work upon the sites and this time on that particular site reduces.

3.6 Websites slow at use: This is due to large graphics, poor internet connectivity, superfluous graphics, abuse of tables, gratuitous technology, etc. unnecessary java applets, flash movies, etc. no

doubt these technology are usable at some places but unnecessary placement of these could make the user suffer and so as the site would. Sites often contain information which is simply of no use to the users.

3.7 Accessibility: In this we should know that the site loading time decreases and is not reasonable. Frames splitting or using is very much in use but is confusing as it breaks the fundamental user model of webpage. When page appears it is true that only 10% users they scroll down the information to see what is next. But rest all they check the site on the basis of the content and design already shown and is visible [8].

3.8 Dragging: Instead of vertical navigation, dragging can be used very much by the websites and pdf files. One can typically approach to specific parts of the sites.

3.9 Visual noise: It is the most typical problem that the user face and the large websites designers need to take of this part a lot. Dead end Use as many possible approaches you can to define, make the users aware of all the web services. Welcome with pop-up and java applets. Users need to have some input so that he can start browsing the sites [18]. Content blocks layering upon each other the most common problem when flash movies are made use of is site navigation is hidden [3].

IV.   OBSERVATIONS AND PROPOSED SOLUTIONS

Several observations are found related to issues in web usability. These observations with proposed solutions are as follows:

One should use stronger, higher contrast colors and larger fonts. Give catchy and short headings. Logically organize one's thoughts and have an outline how to write them all. Other text should be short and easy to digest. Essentials needed and strip out all the rest waste. Focus point to be accompanied by descriptive heading. Not to make the headings mysterious or vague to draw people in. Avoid long paragraphs, sentences, use simple and new words. Always understand what user wants and do understand what user's needs or objectives are.

Tagline makes purpose of company very clear. Major headlines should make attractive, size and colors matters. White space: clear space always makes your site easy to view and use. If no white space, we will never have a clear idea what to focus on and on what not to. There is no clear structure,

everything unorganized, different colors make site inconsistent.

Each page should be of same length. Put very important information on the top, so that could be focused. Next is consistency: logo and banners should be consistent on every page as you use colors, visuals, and text. Organization: put catchy image, brand names at the top. Navigation tabs, graphic links, simple content area, simply the goal is to get user involved. Speed: speed how quick or fast the site loads.

Terms used for hypertext and navigation items are jargon free. Users can easily do sorting and filtering of pages. While localizing the sites, this research paper helps to examine the current state of us based e-business [17]. On clicking on mouse points there is a visible change. More than one link navigation is available for the important; only pages can be viewed without scrolling. Hypertext links differs as one invokes actions and other loads another page. The user should not be confused if the site spawns new windows [4].

GUI components are used mostly. In this research paper the current methods and practices done to measure usability and to analyze the major issues related to usability employment. So in this there is a discussion of challenges faced in conducting usability studies [13].

Apply readable Fonts. The site avoids italic text but underlining is considered important in hypertext links. Pleasant site needed. Pages are free of "scroll stoppers. The site should be designed in such a way that it should engage the users, they feel good to work on and continue to use the site [5]. Colors should be made use of in such a way that it gives a fine look and can be used to structure and arrange items in an organized way [6].

Services hence are provided to implement these recommendations and create more usable web solutions. In this research paper, we got to know about usability engineering. It is ways that design the products taken in mind the technical environments and user requirements [16]. Try and Divide your information into clearly defined sections. These sections should be organized the way a visitor searches for information, not how your unit itself is organized [7]. The content placement should be very concise, to the point, presentable [9].

Usability means user centered design. Design and development both the process are focused. The user face many difficulties and sometimes it easily work on the same site for much long so accordingly [15]. The key principles of a good website could be availability and accessibility [10]. There could be many users visiting website a day. Many would also get the required information they wanted to know about. But, yes, there's a difference that many are also those who disliked sites and were not willing to use them, they left the page there and then.

The various analysis about issues in web usability's factors and their proposed solution is presented in Table 1.

V.   CONCLUSION

Usability here plays a crucial role as it is how easy is to use the site. We may deals with a lot of problems discussed above and also we have got solutions for them. We have tried to give as many solutions as was possible. I have learnt that we should create our site keeping in mind all the above factors given but check before updating it. To check is to test. Paper prototyping is important to study. Start with talking about the process and digging for background. Compensate your participants. Put participants at ease, give them control. Ask questions that qualify the participants. Identify the trigger and conditions for the activity. Now, use paper prototype way for usability testing. Start with open questions. Dig deeper if the user is brief. Instead of telling the user specifically what to do, give an open ended task to user. Ask the user what he or she expects to happen. Use combination of sketches and computer print-outs or whatever is easily possible. Test complex interaction before the investment of coding and design with little creativity. Use crayons or whatever possible to stimulate the interaction of clicking and coloring. Mostly, users are able to interact with the paper prototype like it's the real thing. We can easily accommodate unforeseen actions using paper prototype.

So this would be possible we you create a site fulfilling the users demands and is very impressive to users. Concise content, proper formatting, good designing, proper setup, etc would work. Also, I found that a site becomes irritating and user leaves the site in just .2 sec when the users demand or aspects are not fulfilled. So this, the most important is to make your first impression very calm and worth, so that the user can at least get some interest to know about the site.

Table 1. Analysis of issues and Solutions for Web Usability Parameters

Web Usability Factors	Analysis	Proposed solutions
Site identifies	Page on the web not able to help us understand its importance and its purpose. User's time is wasted much when they just look around the site gaining not even the purpose of the site's very page	The site should be designed in such a way so that users could get the basic aim and purpose of it.
Scrolling Text, Marquees, and Constantly Running Animations	Moving images have much effect to us basically to human vision.	It is required that you need to give the user some piece calmness so that the information, data could be read easily.
Complex URLs	It is found that users actually, they try to decode the URLs of pages to know about the structure of all the web sites.	They do that because they do not have the proper navigational support and sense of location in the websites. So it should have the human readable directory and file names.
Orphan Pages	You need to make sure that all the pages should tell about what it is all about, the main topic. Because it is possible that the user comes directly to some other page without even looking through the basic home page.	so you can simply provide a link of all pages to your main home page
Outdated Information .	It is really more important to maintain your content already available rather than adding on the new content, designs and resulting in a total chaos.	Many old pages they keep their reference but develop a new page entirely with new approach and presence of mind
Hidden log-in link	So here it is needed that the user can well able to use the site tools, providing them with the basic knowledge of it	. Users should be able to correct the mistakes.
Pop-ups for content presentation	All the web browsers today use this popup browser so that the unnecessary pop-ups, blocks and the site text could be prevented.	Firefox, Safari, Opera and Internet Explorer make use of it.
Orphan Pages	You need to make sure that all the pages should tell about what it is all about, the main topic. Because it is possible that the user comes directly to some other page without even looking through the basic home page.	so you can simply provide a link of all pages to your main home page.
Text not readable	Is small, font size, colors and size used is poor. Is not concise, not understandable and scan able.	Stronger, higher contrast colors and larger fonts. Informative and concise text. To the point, catchy headings.
Navigation	Navigation system is very poor, the bars and buttons could not be	Main Navigation should be Easily Identifiable. Navigation Labels

	searched and not able to clearly links to each part of the site.	should be Clear & Concise. Number of Buttons/Links should be Reasonable. Company Logo should be Linked to Home-page. Links should be Consistent & Easy to Identify. Site Search should be Easy to Access.
Poor image implementation	The websites are filled with lots of images in it.	Use images with text, underline the important importance of the image shown and text descriptions should be provided.
Browser incompatibility	Overuse of multimedia without other viewing options: Overusing multimedia implementations such as Flash can render a site un viewable by some.	It should be tested in different web browsers.
Avoid overusing ads	Too many ads make somehow difficult for the users to work upon the sites.	Giving fewer ads could be a solution so the ads should be avoided.
Speed problems	Websites slow at use. This is due to large graphics, poor internet connectivity, superfluous graphics, abuse of tables, gratuitous technology, etc	Good internet connectivity, nicely designed tables used, less graphics and less images to be used.
Invisible Links	Users would face many problems if the designer enables to present information of all this in an appropriate way.	Users should be well aware of that where are they now, where they have to go next, and where exactly they were before
Irrelevance	Sites often contain information which is simply of no use to the users	The users need to save their time by quickly looking for those sites which could help them get better results, so avoid irrelevance
Long Scrolling Pages	When page appears it is true that only 10%users they scroll down the information to see what is next.	Rest all they check the site on the basis of the content and design already shown and is visible.
Using Frames	It is very much in use but is confusing as it breaks the fundamental user model of webpage.	Find an easy way to return to the homepage, it is tough and a lot of time is wasted in it.

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