

# A STUDY ON THE PROBLEM OF DEALING USABILITY WITH EMERGING NEW MULTIMEDIA TECHNOLOGIES FOR WEB DESIGN

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## Abstrak

Seiring dengan perkembangan teknologi World Wide Web yang terus berubah, para perancang web mulai berdebat tentang cara membuat website yang baik. Mereka berdebat tentang mana yang dijadikan pertimbangan yang lebih penting, aspek usability web atau penggunaan teknologi multimedia terbaru, yang digunakan untuk membuat situs web yang lebih menarik.

Di satu pihak, aspek usability dapat menjadi pertimbangan utama. Mengingat bahwa banyak pengguna yang harus menyelesaikan tugas mereka ketika berhadapan dengan World Wide Web, yang artinya bahwa para perancang web harus membuat situs mereka sedemikian rupa sehingga dapat membantu pengguna menyelesaikan tugasnya secara efektif dan efisien. Tentunya, penggunaan teknologi multimedia dapat dimanfaatkan, bukan hanya untuk membuat situs tampak lebih indah, tetapi untuk membantu pengguna memahami konten lebih baik.

Kesimpulannya, harus ada pertimbangan antara kedua aspek yaitu aspek usability dan penggunaan teknologi multimedia, dan setiap pengambilan keputusan kelebihan dan kekurangan antara kedua aspek tersebut dilakukan dengan mengacu pada obyektif situs itu sendiri.

## Kata kunci :

*World Wide Web, Usability, perancangan web, multimedia*

## Abstract

*While the World Wide Web evolving through many stages since the technology kept changing, web*

*designers start to debate on how to create a good website. They argued on which is the most important consideration, the usability aspect of the web or the use of new multimedia technology to create a more attractive site.*

*On one side, usability aspect could be the main consideration. Bearing in mind that a lot of user has a task in their hand while dealing with the World Wide Web, that means the web designers should create their sites in such ways to help users finish their task effectively and efficiently. However, the used of multimedia technology can be extended, not just to make the site appealing, but to help the user understands the contents better.*

*In conclusion, there are ways to dealing with both usability aspects and the used of multimedia technology. And every decision making on the trade offs between them is taken by observe the objective of the site itself.*

## Keywords :

*World Wide Web, Usability, web design, multimedia*

## I. INTRODUCTION

At the beginning, according to Wroblewski (2002, p.6-9), the idea behind the first World Wide Web was to create a device which can widely share the information with the major part of text-based information to share. He called that first era of World Wide Web as the "Simple Sharing Era". The web began to shape in more interesting way on the next stages, the "Image/Table Era" where graphics design began to be included in the web. This era also lead to

the “Design Intro Era” when the web designers used images for almost all the information provided and treated the web as another publishing device. Following this era was the period that he called as the “Techno-Hype Era”. In this era, he found out that the web designers were challenged to use all the new technology provided, such as applets, Flash, Quick Time, and so on.

However, Badre (2002, p.6) notice that during those eras (around 1990), most commercial web sites were designed badly without any consideration of the importance of usability subject which is an essential part in particular software engineering. Capraro and McAlester (2002, p.xvi) add that at those times the web designers were challenged to produce sites with lots and lots of images, animations, and all the multimedia appearance which technology can provide, again without any concern on user experience. Such designers who can produce the fascinating webs using multimedia technology were in high demand (Capraro and McAlester, 2002, p.xvi).

Around the year of 2000, Jakob Nielsen started the issue of usability. In his web based column called Alertbox wrote an article commenting the web designer’s trend in using new technology. In his article “Flash 99% Bad”, Nielsen (2002, “Flash 99% Bad”) criticized Flash technology which he believed encourage web designers to disregard usability principle. He observed that after using Flash, the web designers tend to over exploit the design of pages, they were likely to put a lot of animation and use tricks in Flash as much as possible without any reason, but only because they want to show that they can do it. This approach, he argued, will draw people attention from the core values of the site. Nielsen also added that the Flash technology itself ignore the web fundamental, since by using Flash a lot of web functions, such as the “back” function, would not work properly, which in return would make the user confused.

Nielsen was not the only one who raised the usability flag, from that moment web usability has continued to become an important issue and has been taken into consideration by the other professional web designers. This is the period where the web designers started to pay attention to the user side, which called as the “Usability Era” according to Wroblewski (2002, p.10). Since the web was designed to be functioned as a “unique

communication medium” where people can share and search information beyond the space boundaries as mentioned by Wroblewski (2002, p.7-8), it is about time the web practitioners reformed their thought back to the main objective.

## II. USABILITY ISSUE RAISED

The fast growth of the new multimedia technology gave a new excitement for the user to step further. In some case, the user not only satisfied to enjoy the new technology in the web, but they step forward to learn and create their own websites. After a while, or after they build more than one site, they started to call themselves a web designer. Now everyone can call themselves a web designer as long as they could build a site with the new technology. Furthermore, because of their experience in this new technology, they started to design web for another party, such as an organization or a company. These web designers usually very eager on learn the new technology but has less knowledge or understanding on the user side even though they once were a user before.

If the designer’s goal is only to elaborate the new technology, he or she would create the web based on what the technology can do rather than what the user need. Based on his own experience, Rob Wellington (2004, “New Media Production”) pointed out that sometimes the designer has design a site that really looks fine according to the designer itself. The designer spends much time on design a page with some new appealing technology that he/she thought would make the site looks good (Wellington, 2004, “New Media Production”). However, at the evaluation time when the design met the users sometimes the users feel that it is too hard to use.

The idea behind usability issues was to involve and to understand the user’s side since they are the target of any sites. Like any other business, the website owner and the designer should understand their customer in order to build a good website. Rob Wellington (2004, “New Media Production”) realized that the user is the decision maker of each product, not only for the web but for everything else. He gave an example on thinking of the bumps of the user when creating a chair. Then he drew a conclusion that anywhere in any industry, the designer should

always emphasize on the content and should consider the audiences. The web designer should understand the user's purpose and show them what advantages they would gain if they visiting this particular site. Brinck, Gergle, and Wood (2002, p.69) stated that if the designer cannot even think of one single reason why user would like to visit the site then maybe they will not come.

Badre (2002, p.67) dividing website surfers into two parts. The first one, he explained, is the targeted user, who is the reason why a site was built at the first place. The second one, he defined as an incidental user who just looking around on a site because they can get into them. The first kind of user, their liking, their attitudes, their handicaps will become the main consideration on building a site. However, Badre (2002, p.67) advices the web designers not to took aside the importance of considering the viewpoints of the second kind of user. They probably not the first target of the site, but they could considered as the costumer-to-be of a website. If they came to a site, would they return or would they impressed by this site, or would they put this site on their bad sites list?

Once the users came into a particular website, they already had their own expectation and standards. If the web site convention could satisfied their expectation or the information provided could fulfill their needs, then they more likely to return to this site, and vice versa.

However the user's expectation and standard usually is different from one another. Some users start to surf the web since its first creation which used only texts to convey the information. This kind of users enjoy the web as a media to share and gain information, thus they usually did not pay much attention on the visual approach of a site. On the other hand, after the primitive era where all of the sites built in text based, suddenly people got excited with the new technology in web design which allow the web designers to put some multimedia objects such as images, sounds, and animations. Even the people usually not deal with computer since they thought that it was too complicated, started to learn how to use one just because they want to join the group of people who surf the web. These phenomena created the second type of user which enjoy the visual or multimedia approach of the website.

But nowadays, a lot of people surf the web because they have to. If they are students, they need to search materials from the web for their essay. If they are employees, sometimes they need to do something via the web. Internet become a must understand for people to keep in track, if they do not want to left behind. This phenomenon has caught by some web designer expert who raised the usability issue. It is important that if the web designers understand that the user have a task in their hand to be done, they should design their sites in some way to help the user finish their task easily.

However, user's behavior usually is different than what the designers expected. Krug (2000, p.21-25) observed that while the web designer created their site with many options and instructions, the users would never notice it since they are likely to scanning rather than carefully read everything provided. The users also not need to search for the most optimal choices, they just jump on to the place where give enough information for them. And almost all of these attitudes were caused by the limitation of their time. (Krug, 2006, p.26-29) Even if they only surf for fun, they will trying to surf as much sites as they can, rather than muddle on one particular site.

These misunderstandings not just confused the web designers, they also confused the user when they arrive at a site. Things that they expected on their limited time, was different than things that the designers provided on their sites. In these cases, if the users found barriers on their way to reach the information needed, their reaction would be different from one another. Donald Norman (1988, p.34-35) found out that in this kind of situation on any kind of experience, novice users are likely to blame on themselves for their incapability, while the expert users would blame on the site or the designer of the site. However, it does not matter weather the user will blame on itself or blame on the designer, since they all would never return to the site which they found it hard to deal with, especially when there are so many sites where they can explore.

### **III. SHOULD MULTIMEDIA BE EMPLOYED ?**

While the necessity of art and fun is not easy to dispute, Nielsen (2000, p.11-12) highlighted that the web designers should bear in mind that the most important thing in web development should be to help users do their tasks easily. Things like the introduction page or splash page will only build a

barrier for the user to get into the page they were searching for.

However, Wroblewski (2002, p.i-iii) also stated that one cannot ignore the importance of visual design since the web does most of their communication visually. He explained that visual design is more than an attempt to make the web seems nice looking. An appropriate visual design not only can make the site neat and appealing, it also helps the user grab a better understanding on the site and its information provided.

To make a decision on how to apply the technology to on web is not an easy one, since the designer should bear in mind that the use of technology is not for their own satisfaction, but it is far more than that. The technology is here for used to create a better thing. Rob Wellington experienced that the used of the new multimedia technology in creating a website is a good approach since with this new technology people can tell the whole story in a better way (Wellington, 2004, "New Media Production"). He added that with the new technology, the designer enabled to create an interactive site which would give the user more experience and getting more involve. It is more attractive and because they involve in it, it helps them to understand the story much better and stay in their memory much longer.

#### IV. DEALING USABILITY AND MULTIMEDIA TECHNOLOGY

From the arguments above, the only consideration of the usability expert is about how to create an easy to use fast site. From their point of views, it looks like the use of some bleeding edge technology which not proven yet as an effective tools in building a good site, has only give a bad impact for the user rather than a good one. Some technology would produce some distraction for the user and build a barrier for them to reach their main objective. One old example of this technology was the used of Macromedia Flash, in which would force the users to install the appropriate plug-ins, which in return would increase the download time, and the animation or images produced would distract people attention from their main points.

On the other hand, as mentioned before, multimedia technology sometimes is important in

providing some visual aid or sounds which can help the user grasp a better understanding on the information provided, since a picture could speaks thousands words better. Another advantage of using the multimedia technology is that a site with the multimedia technology seems to be more appealing than a site with only text on it.

The example of conflict between usability and the used of multimedia technology showed on the snap shot on the site created by Nielsen Norman Group with another site of jonespartners.com on figure 1.

The website of Nielsen Norman Group is very simple and with the standard internet connection can be downloaded in below 8 seconds. This site also use a bigger font size to made it easy to read for everyone (young or old), as mentioned by Marian Quigley (2004, personal communication) that probably some web designers are young with good visual capability which made them ignore the lack of visual capability of people, especially the older one.

This website has a better aesthetic appearance than the previous alertbox which only consist of text, shown in Figure 2. But since this page used mostly text and only still visual aids, some of the users are commenting this page as boring, even though the content of it is good and important.

On the other hand, the other page (jonespartners.com) has plenty animation while opening (figure 3). However, this site is very heavy to download, it took approximately 25 seconds from a standard connection to download the whole main page, while nngroup.com only took about 8 seconds and google.com loaded in 5 seconds.

In addition, while loading the homepage, there are too many swaping image across the page which are more confusing than beautiful.

Those examples showed that there is no easy way to decide the appearance of a site. As Capraro and McAlester (2002, p.18) discover that easy and fast are the main consideration on creating a better site, they also realized that sometimes there are trade offs to make a better site. The trade offs is not to remove the easy and fast aspect (and change it to difficult and slow) but to reduce it in order to make the user experiences more enjoyable. The new website of Nielsen Norman Group is the example of this practice.

Moreover, the design of a site should be corresponded to the objective and the identity of the site, and the users need as well. Some site such as a site to share information about research paper and its content, maybe need less image/animation or not at all. On the other hands, some site such as an official site of a new movie will lost its meaning without any

image or movie preview. Therefore, the importance of multimedia technology is depends on what kind of site it is.

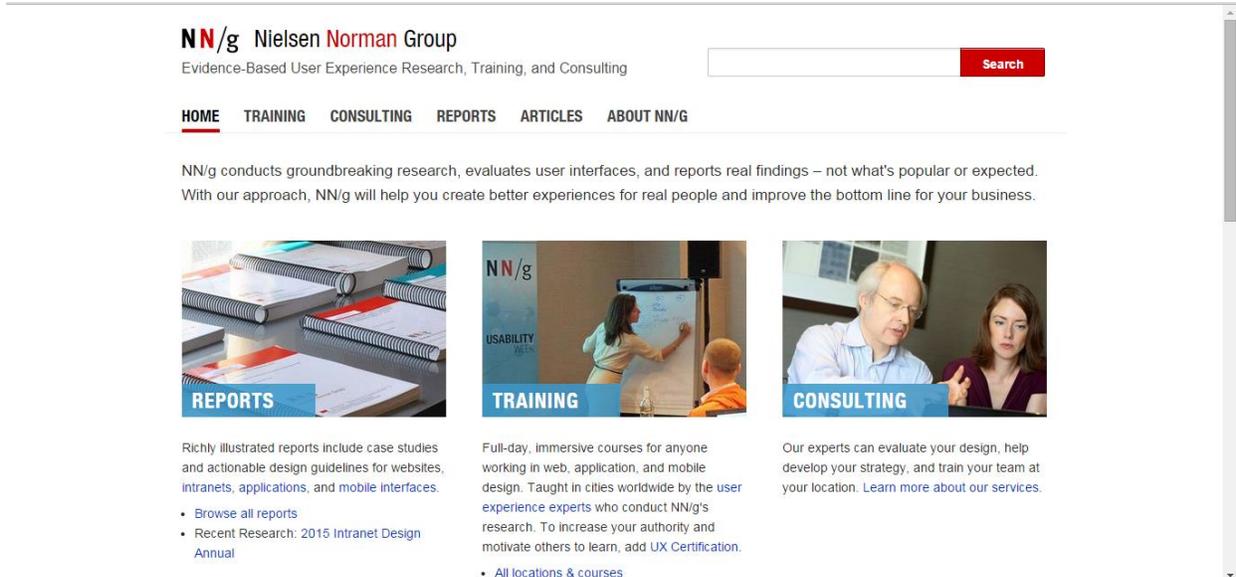


Figure 1. Nielsen Norman Group Website.



Figure 2. Jakob Nielsen's Alertbox site

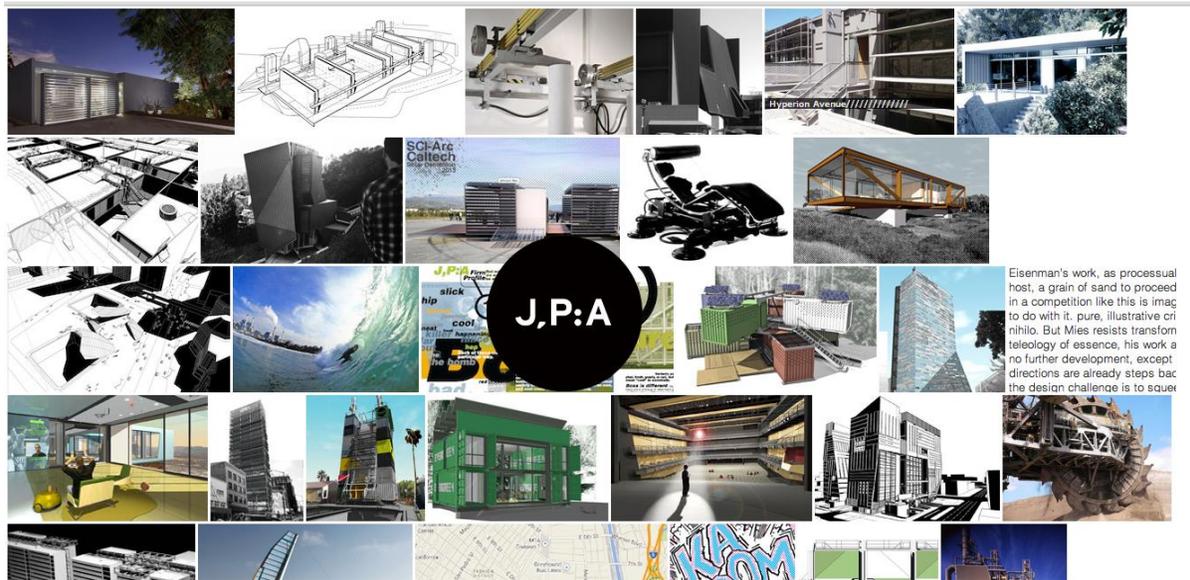


Figure 3. jonespartners.com site

However, while use the appropriate multimedia technology in building a site, the usability aspect should be take into account as well. Badre (2002, p.187) gave some tips to keep in track with usability aspect while playing with graphics. He reminded the designers to keep the size as small as possible to reduce the download time. Moreover, he also suggested to always providing text object for the situation where the user's browser failed to download the graphics. And there are a lot more tips on combining usability and aesthetic design using multimedia technology can be found from books or online web anywhere today. One of them even came from the Macromedia itself, the one who owned the Macromedia Flash.

## V. CONCLUSION

The importance of usability aspect has been ignored for years since a lot of new multimedia technology has been introduced and a lot of amateur people became a web designer. Their main consideration are only to keep in pace with the new technology. This situation has taken into light when some experts raised the usability issues, since there

are so many bad design websites. However, in some way the usability follower somehow can fall to another extreme to reject the multimedia technology.

Since usability aspect which always considers the user in the step of building a site is hard to dispute, therefore every web designer should follow the usability principle while they build their site. Still, the multimedia technology could be used for some kind of sites depend on their objectives and the user needs. Usability principle can be combined with multimedia technology to create a better site. Multimedia technology is not always opposed the usability principle, in fact by using it in an appropriate way it could support the usability principle.

## VI. REFERENCE

- Badre, A.N. 2002 *Shaping Web Usability: Interaction Design in Context*, Addison-Wesley, Pearson Education
- Brinck, T., Gergle, D. & Wood, S.D. 2002 *Usability for The Web: Designing Web Sites That Work*, Morgan Kaufmann Publishers, San Francisco

- Capraro, M. & McAlester, D. 2002 *Skip Intro : Flash Usability and Interface Design*, New Riders Publishing, Indianapolis, Indiana USA.
- Flanders, V. (2001 – last update) *Intranet Journal : The Top 10 Intranet Design Mistakes*, [Homepage of Intranet Journal], [Online]. Available : <http://www.intranetjournal.com/articles/200103/in01.html> [2004, July 21]
- Jonas Partners, J.P:A, [Homepage of Jonas Partners], [Online]. Available: <http://www.jonaspublishers.com> [2015, March 15]
- Krug, S. 2006 *Don't Make Me Think*, New Riders Publishing, Indianapolis, Indiana USA.
- Macromedia Flash (2004 – last update) *Macromedia's Top 10 Usability Tips for Flash Web Sites*, [Homepage of Macromedia Flash], [Online]. Available : <http://www.macromedia.com/software/flash/productinfo/usability/tips> [2004, July 21]
- Nettleton, N. 2003 *Web Design Start Here*, The Ilex Press Limited, England.
- Nielsen, J. 2000 *Designing Web Usability*, New Riders Publishing, Indianapolis, Indiana USA.
- Nielsen, J. (2002 – last update) *Flash : 99% Bad (Alertbox)*, [Homepage of Jakob Nielsen's Website], [Online]. Available: <http://www.useit.com/alertbox/20001029.html> [2004, July 21]
- Nielsen, J. & Tahir, M. 2002 *Homepage Usability : 50 Websites Deconstructed*, New Riders Publishing, Indianapolis, Indiana USA.
- Nielsen, J. 1993 *Usability Engineering*, Morgan Kaufman, San Francisco.
- Nielsen Norman Group, *NN/G Nielsen Norman Group*, [Homepage of Nielsen Norman Group], [Online]. Available : <http://www.nngroup.com> [2015, March 15]
- Norman, D.A. 1988 *The Design of Everyday Things*, Doubleday, New York.
- Preece, J., Rogers, Y. & Sharp, H. 2002 *Interaction Design : Beyond Human-Computer Interaction*, John Wiley & Sons, Inc., New Jersey.
- Quigley, M. 2004 (personal communication)
- WebSiteOptimization.Com (2004 – last update) *February Bandwidth Report - US Broadband Breaks 30% in December*, [Homepage of Website Optimization], [Online]. Available : <http://www.websiteoptimization.com/bw/0301.html> [2004, October 11]
- Wellington, R., 2004, *New Media Production* (video recording) 23/08/2004, Monash University
- Wroblewski, L. 2002 *Site-Seeing : A Visual Approach to Web Usability*, Hungry Minds, New York