

Introduction:

In order to reach the widest possible audience you have to build a website that will be displayed appropriately with different platforms, browsers as well as connection speeds nevertheless, along with compatibility it is important to consider the physical needs of your users (June Cohen, page 182). Consequently, the provision of access to the web for disabled people is becoming a more important dimension of web development in the developed countries. Furthermore, designing for disabled users is not a problem, it is more as opportunity however, you have to start approaching it positively. Therefore, with just small amount of thought and effort, you can make your website accessible to these users, bearing in mind that there are millions of users who have physical disabilities (one in seven people in the UK-about 8.5 million-suffer from some form of disability, The Disables Right Commission). This essay clarifies how to make the web accessible for users who have visual disabilities as well as it shows some of the techniques that have to be used in order to reach that goal. In addition, the essay explains the impact of involving these users on the web.

Modifications made provide ease of access to everyone apart from their physical needs:

In the real world, modifications made for disabled people usually help everyone else who is particularly not disabled (Rob Imrie and Peter Hall, page 3). For instance, making the city centre sidewalk navigable for people in wheelchairs help bicyclist, scooter riders, pram pushers and even suitcase draggers to get around with ease. Similarly, the modifications you make for your website to people who have visual disabilities will help your entire audience. However, websites which have been designed with considerations of the people who have visual disabilities are normally use a simple way of design which in terms reflects more advantages on normal users such as ease of navigation, readable size of text as well as appropriate design features.

Classification of users with visual disabilities who use the web:

On one hand, it has been argued that people who have visual disabilities can not navigate the web since the web is almost exclusively a visual medium. On the other hand, by using several techniques which have been developed throughout the years, it allows these types of users to read the web without the benefit of their sight. This segment of population includes users who are blind, have impaired vision in addition to those who have colour deficiencies (Douglas K. Van, James A. landay, Jason I. Hong, page 220). Users who are blind navigate the web using screen reader which is a software that converts all the text on a web page to computer based speech alternatively, they are using Braille browser which prints out every page in Braille. Above the beyond, users who have impaired vision are using special type of software which enlarges the size of the browser that appears in their screen and, often they have difficulties reading the tiny text which appears in the websites they are navigating. Moreover, it is quite common to find websites that have combination of background and foreground colours that makes pages nearly unreadable for colour blind users which also known as colour deficiencies. However, according to Jacob Nielson who is usability expert that it is always advisable to get a feed back on all graphics design from red-green colour blind user because it is the most common form of colour deficient sight (Jacob Nielson, page 302).

Designer's responsibilities:

Great deals of websites are inattentive to the need of users who have visual disabilities as a result of that, these websites are sometimes impossible to navigate as they have been designed without considerations to these users accessibility in mind. This might be referred to, many website designers and developers occasionally ignore designing an accessible websites. Besides, they do not meant not to consider these users who have visual disabilities or to ignore their websites accessibility however, in my opinion it is due to limited budget concerns, strict nonnegotiable deadlines and often it is because of their believes that accessible websites are not needed. These designers and developers do not have to follow every last accessibility guidelines consequently, even if they can not design a full accessible website for users who have visual disabilities , they have the full responsibility to include as many accessibility features and solutions as possible. Jeffery Zeldman who wrote the book Designing For Web Standards (New Riders: 2003) has been argued that, it is always the designer responsibility to design a website which is accessible to disabled users, not the client responsibility whether the client request it or not since his philosophy is “show, do not tell “.

Conversely, there are few websites which provide exceptional design features and appropriate navigational aids to enable users with visual disabilities to browse these pages with confidence, ease and smoothness. Considering the users who have visual disabilities noticeably will increase the numbers of website users. As often disable users become very loyal and frequent customers once they have found a good website which gives them very good services which, accommodate their special needs therefore, by showing respect to these people you are increasing traffic to your website.

The most important challenges for users who have visual disabilities:**Interpreting images:**

Occasionally, images contain more than the designer's message to the user however, images can say thousand words comparing to the text (Nigel Chapman and jenny Chapman). As a result of that images are often used to replace large amount of text on the websites .Consequently, if these websites do not provide text equivalents of these images particularly, the images which used in the navigation, can not be understood by blind person who is using screen reader. More to the point, ALT tags is an alternative method for displaying images to those who can not see them, to be more precise those who can not see the images whether because they have visual disabilities or because they have turned off the images loading due to bandwidth concerns will see or hear the alternative text. The first rule in accessibility is “providing a text equivalent for everything that is visual” says Matt Margolin who is a web consultant and currently writing a book on the same subject.

Understanding the page structure:

Many users who have visual disabilities are navigating the web using screen reader which, calls out the heading and the subheading which divide a web page. Therefore, textual web pages which are mostly have great amount of text comparing to other multimedia elements, are reasonably easy to access for users who are blind or those who have impaired vision since, the text can be fed to a screen reader that will read the text

loud by converting it to computer based speech. As many designers, pay no attention to the page structure, these pages are becoming more difficult to read by users who use screen reader. Longer pages normally cause some problems to users who use a screen reader that, it is extremely difficult for them to scan for interesting parts within the web page than it is for a sighted person. So, it is always recommended to put emphasis on the page structure by using proper HTML headings, which will allow these users to facilitate scanning .For example, using <H1> for the main heading, <H2> for the main parts of the information, <H3> for the lower parts information...etc. By adding these descriptive headings, a user with screen reader can get an overview of the page that he/she is navigating and, as a result of that users can skip sections and scan the page easily. Also, it is always sensible to use different HTML title for every page that all the users including users who have visual disabilities can distinguish between the pages.

Reading small text:

Picking up the fonts to be used on the web might be fairly difficult from a design perspective (Tay Vaughan, page 181). Although, it is important to choose a font that could be seen in all the user's computers by default, in fact what is matter is the size of the font. Usually designers use small size of font because it saves space on the screen especially when they have limited interface area to place their multimedia elements in (June Cohen, page 150).But, many people (not only applied to users who vision impaired) struggle to read the tiny small text on these websites. This can be addressed by using large size of fonts which can be readable otherwise, providing users with different size options. Web browsers have a default font size and often users who have limited or low visions specify large size of text. According to that, if the you choose relative font size, the text usually will displayed as the right size for them but you have to be sure that all the pages will looks the same or slightly worse when the font size is changing.

Differentiating between colours:

As it has been mentioned previously that, users who have visual disabilities are including those who are colour blind users which also known as colour deficiencies. These types of user see the web differently than we do as they have inability to distinguish red from green (Mark Pilgrim, Dive into accessibility website) where most colour blind users, actually 99 percent of them have trouble distinguishing between red and green (Chuck Newman , web techniques website). According to that, colour blind users suffer when they navigate the web that they can not see the different between red and green especially, when they visit a website that use green for unvisited links and red for visited links. Subsequently, the best solution for designers is stay away from links and background colour combinations that people with colour deficiencies will not be able to differentiate and instead they can use colours which all the colour blind users can see such as yellow and blue.

Suggested solutions to make your website more accessible for users who have visual disabilities:

- Provide a sufficient contrast between the text and the background so, either use a light colour on dark background or use a dark colour on light background (June Cohen,

page 148). It is always unwise to use complex background patterns as they are making the text extremely hard to read.

- Add ALT tags to all your images especially these in the navigation bar. As a result of adding these ALT tags, your web page will be more accessible to blind users who are using screen reader to navigate the web as well as to those who turn off the images in their browsers due to bandwidth concerns.
- Furthermore, avoid using all caps for text since the letters forms in capitals are more difficult to read although, sometimes you have to use all caps for text to draw the user attention to something within your home page such as “MORE” or “SAL” however, capitalising the text relatively slow the reading.
- Avoid using colours that the colour blind users can not differentiate and in particular, keep away from red-green combinations for background, images and links.
- Does not use animation as blinking text within your web page as this type of multimedia elements usually distract the users who have impaired vision as well as it hard to read the text.
- Use long familiar descriptive names of the links within your web page as blind users normally skip texts and go directly to links (Douglas K. Van, James A. Landay, Jason I. Hong, page 221)
- Let users (particularly senior users who have vision impaired) change the font size by offering them web equivalent of a large print edition. I.e. Wired News website readers can choose between different sizes of text as well as Tupperware.com offers large print version.
- Provide text equivalent to all the multimedia application which located in your website in addition to the information only available through scripts (Web accessibility initiative website, guideline 1).
- Avoid reliance on input device specific actions (e.g. “on mouse over”), that many blind users can not see that action as well as it is hard to replace it by a text equivalent (David Sloan, A rough guide to accessible web design, digital media access group).
- If you are using tables within your web page, insure that you are identifying columns and rows headers. (Joe Clark). This also applied to frames that you have to add a title to each frame to facilitate frame identification and navigation (World Wide Web Consortium, priority 1 requirements).
- If image maps are used, there should be an alternative method of selecting options that it is completely inaccessible for users who are blind. An appropriate solution is to have an option for a text-only page which presents an alternate form of the entire page which replaces the Image Map with a text version which is optimized to work within the layout of the page. (Vanderheiden, 1995)
- Avoid pop-up ads (CIW study site) as much as you can, as this kind of interaction often distract the users as well as blind people can not distinguish between them and between the pages they are reading, using a screen reader.
- If you are require to have Flash animation within your web page, then use the latest version of the software as it has been extended to provide accessibility information (CSUN Center on disabilities training program, Kynn Bartlett, 2003 Conference).

Validation and evolution your website for accessibility:

Many Web designers with limited knowledge of accessibility think if their site passes bobby or any other accessibility validators, then it is accessible for those who have visual disabilities. In fact, there are a lot of tools available to check your website contents for accessibility. Some tools are web based services (such as Bobby and Wave) while, other tools are software product that you need to install in your hard drive (such as A-Prompt and Lift). Nevertheless, Joe Clark who wrote a book about "Building Accessible Websites" has been argued that, these accessibility validators in particular Bobby are just computer programs and his advice was simple, "do not rely on Bobby and do not rely on any software to evaluate your website accessibility". Besides, Joelle Carignan has the same opinion "most tools for evaluating web pages accessibility are based on the Web Content Accessibility Guidelines 1.0 (WCAG) from W3C Web Accessibility Initiative (WAI)", (Sap Design Guild website). Therefore, it is always sensible for designers, to follow these guidelines in order to make their web pages accessible for users who have disabilities. In addition, web browsers such as Opera acts as accessibility validator if you know how to use it (Paul Bohman, Web accessibility in mind). It enlarge your web page up to 1000 % (useful to see how your page will be when users who have impaired vision are navigating it), and it allows you to turn off images, tables and java scripts within one click of the mouse. Again Opera is a good tool of checking the accessibility of your website although, when it used in combination with others accessibility validators by a designer who is familiar with web accessibility concepts and guidelines, it can be an effective part of the overall accessibility design process.

Conclusion: Pragmatic accessibility

The writer of this essay must admit as a designer that the websites he personally designed do not follow every last accessibility guidelines since he cuts corners in order to meet deadlines as well as he believed that accessible websites are not needed. Henceforth, he decided to take into account the needs of the web users especially those who have visual disabilities when designing websites in the future as Tim Berners-Lee who is W3C Director and inventor of the World Wide Web said "The power of the web is in its universality. Access by everyone regardless of disability is an essential aspect.". Furthermore, designing a website to be accessible will increase your audience, improve the search engines lists, reduce the load on your server, will help you to comply with the law (only applied to a few countries such as the US) and finally will reduce the cost of the maintenance. Personally, the writer of this essay has to promote accessibility because as we get older, we will experience more disabilities ourselves. So, it is undoubtedly worth remembering what is waiting for us as we get older. Although the world has made remarkable steps in improving accessibility for user who have visual disabilities, there is still room for improvements. So, if we all consider this audience in designing web pages, access will improve that much more.