

Testing approach for web accessibility



Introduction to web accessibility

Web accessibility testing is a classification of utility wherein the users have several particular disabilities and they have to consider removing them for a better overall user experience. The end goal is to figure out how to make the feeding of information back to the internet easier and how to improve future designs and implementations at the same time. This is web accessibility testing. The end goal is the same in usability and accessibility.

Accessibility interpretation is more formalized than usability testing in general for developers and testers. There are several laws and legislations that do not take discrimination against disabled people well. Hence, in order to be fair to all, there are several governments and other organizations (profit and non-profit) who work to make sure that companies adhere to the several web accessibility standards when they're developing public content or property.

These laws and legislations are (in the United States):

- The US federal government's Section 508 legislation
- the W3C's Web Content Accessibility Guidelines (WCAG).

However, it is very crucial to distinguish between conforming to a set standard and increasing the overall accessibility of a website. In ideal situations, both of them would be the same. However, the ideal might fail to:

- address the needs of other people with all kinds of disabilities.
- balance the needs of several people with differing disabilities or experiencing a variety of disabilities

- match those needs to optimal techniques; techniques that have the ability to be used to full potential to realize these goals
- use clear language to express those needs or techniques to the concerned authorities who can make it a reality

Furthermore, people have to understand that web accessibility is a goal that we have to achieve. It is not a yes/no setting for websites. It should be viewed as a nexus of human wants and technology. We know that as human understanding expands, so does the advancement of that technology with respect to the adaptation to those new-found needs. Technology advances to adapt, and as accessibility requirements become more and more prominent, technology will have to adapt accordingly. Technology will become outdated in a particular time frame and then it will have to be replaced or updated. This means that Skype is a boon for both people who suffer from deafness or blindness, as the app incorporates both video chatting and audio chatting.

Disabilities bring up special challenges when working out how easily a product can be used by a user. This is because they can introduce newer and more unique experience gaps between users and the subsequent assessors who assess and evaluate the software. Accessibility evaluation must take cognizance of what it is like to experience the web and the same internet resources with various accessibility disabilities. There are so many unusual options that people with disabilities have to go through. Hence, the evaluators must have a good sense of what the software can do to help people with disabilities and what options it provides for the betterment of such people. It is the software that has to come up with several different methods to ensure that people with disabilities are given enough options to explore the software just like a regular person and with minimum differences in the ability to perceive the information that is provided by the software concerned.

If you are a developer and you're trying to evaluate the usability of your software (along with its accessibility), you must put yourself in such a position where you're able to determine whether different people from all walks of life would find your software difficult to use or deal with. Put yourself in the shoes of a film-loving teenager or a 50-year old bank manager and figure out whether you would be comfortable with your software if you were them. This is what you need to do before you ever figure out how to make your website accessible to people with disabilities. Now, after you have figured that out, think about how much more difficult or easier your software is to use if the teenager or the bank manager is blind or deaf?

Accessibility guidelines and tools make sure that these experience gaps are adequately bridged. However, we have to understand that they are a supplement, not a replacement for other very pertinent qualities like empathic imagination, technical ingenuity, and talking to users.

When should accessibility testing be done?

There is an old saying that still runs rampant in the software industry. "Test early, test often". There are several risks that come with putting off testing to the ending of the entire developmental process:

- The projects tend to run over-time and usually go over the budget that was prescribed. Due to the pressures of such emergencies that arise towards the end, web accessibility testing is usually omitted and/or ignored at this stage. Hence, due to the delay in testing, it is possible that the testing might not take place at all.
- It takes more work to remove all the errors in the end than to make sure that you're not doing errors in the first place. Hence, when you're testing early and testing more frequently, you will find that you know exactly what is being done wrong and you can prevent it in time. Prevention is indeed better than cure.

Hence, to ensure that your testing is done well and that web accessibility is achieved in time, you must ensure that the testing is done throughout the developmental process. This is also done to ensure quality and save time and money. You must keep in mind that accessibility evaluations should start right at the beginning of product design and development and that it should be included in further development repetitions through to the final delivery of the product to the customer.

Understanding your requirements for web accessibility testing

Before you start evaluating a project for web accessibility, you have to list what your key necessities are for that project. That has to be prepared keeping in mind the environment, the audience that it is made for, and the resources that have been allocated. You also have to consider the requirements that will be set by third parties like clients and governments. However, you may also be able to choose some of those requirements for yourself. Here are some external requirements that you should consider before testing your software or website for web accessibility.

Customer policies.

The relevance is depicted in the following example. For instance, Shell currently tries to ensure that their websites are in agreement with the "Double-A" conformance level of WCAG 1.0. Hence, if you were developing a website for Shell, you would have to meet (at least) the same standard that is prescribed for it.

Governments

This usually takes the shape of general laws and legislation against discriminating against people with disabilities. This is not mandating a specific standard and/or listing out particular conformance necessities. An important caveat here is that when legislation gets a particular standard for the public sector enforced in a specific industry.

Draft WCAG 2.0 has three levels too. However, the conformance possibilities in these are more complicated.

The importance of the user interface

Suppose you have to make a special part of a website web accessible to users with disabilities. You have to make sure that even though the information is not available in a way that might be considered convenient to people with disabilities, a moderately well-formed interface might still do something to help users identify the information that interests them and enable them to seek outside help to gain more insights on the information or content they have chosen. For instance, a person who is hard-of-hearing might be directed to a video that has closed caption options. This will enable the person with a disability to see the video and still gain the information just like anyone else. They can also still use the player to see the video even though they could submit it to a third party, like Project readOn service for special captioning.

Exceeding expectations

Interpreting the external requirements of the client and the government is only the initial segment of the entire process. The external requirements should be treated as a minimum set of necessities to which more and more goals should be added down the line to maximize web accessibility. If you are the web accessibility analyst, it is your job to detect and raise additional accessibility concerns, seeing as you are the subject expert.

You may need to distinguish between external requirements and external expectations when you're working on a web accessibility project. For instance, a customer brief for an online supermarket might say to you that they want a store that is easily accessible to users who are blind. Given the targeted audience, you should also analyse whether the store is accessible to users who suffer from other disabilities of the same type.

It is noteworthy that professional requirements that conform to a specific standard do not necessarily become the best practice guidelines from the other standards that are being applied. For instance, you might have to comply with other disabilities when you're trying to focus on the one that's specified in the client's requirement.

Choosing an accessibility standard

If you have to make a choice for an accessibility standard to take care of web accessibility concerns across a team, it is advised that you look at WCAG 2.0 because:

That is designed around several core human needs that are frequently applicable to technologies other than HTML and CSS

It carefully classifies and documents the reasoning for each conformance criteria

It makes suggestions that consist of practical techniques that enable you to meet conformance criteria by using technologies already available to you

It makes sure that each provision is testable.

It incorporates more amounts of recent research in the stead of current alternatives.

The standard is designed to be broadly compatible with accessibility standards that already exist in this field

It will be an international standard soon enough

You can also cite conformance to a particular draft of WCAG 2.0. However, for marketing purposes, it is always a smart idea to also seek compliance with finished standards. Some of those might include: Section 508 and WCAG 1.0.

Who should test a website or software for web accessibility?

There are usually two kinds of people who conduct web accessibility testing: users and experts.

The importance of expert testing stems from the fact that experts have what it takes to understand how the underlying web technologies interact and how they can act as a clearing house for knowledge about different user groups. They also have the inclination to learn dedicated testing tools.

On the other hand, user testing is important because users are the real experts in their own abilities and their own assistive technology. User testing also has the ability to reveal usability gaps between technical users, and also amongst people who are familiar with the website concerned (such as the expert testers themselves) and people who aren't (new users).

A developer who has the ability to use a screen reader is unlikely to explore a site just like a regular screen user. The screen reader users who regularly program their own sites are unlikely to use their strategies as screen reader users who just do normal and ordinary computer tasks like writing emails.

The knowledge that is gained in user testing is sent back into the expert testing process the next time that the testing is done, either in another testing iteration on the same project, or a different project entirely. User testing also has a more subtle benefit in web accessibility testing. By humanizing web accessibility and bringing developers together with their end users, it has the potential to increase the motivation to build websites that are widely accessible by people with disabilities.

What goes into evaluating the accessibility of a website?

There are many factors that play a part in the evaluation of the web accessibility of a website. They are:

- Content
- Size
- Code
- Mark-up languages

- Development tools
- Environment

As always, you must know that it is an incredibly smart idea to perform and use web accessibility techniques in the initial stage of the project. This is because fixing in-accessible websites requires additional efforts.

Here are a few simple example techniques:

- Verification of page title
- Image text alternatives (“alt text”)
- Headings
- Contrast ratio (“color contrast”).. etc.

We can also determine the accessibility of the website with the assistance of “Evaluation Tools”- up to a certain extent. There are certain things such as if the alt text is properly written for the picture or not, cannot be entirely analysed but they are effective for the most part.

Why is a consistent methodology very pertinent in accessibility testing of software and websites?

One of the greatest challenges in addressing website accessibility is the fact that your company’s digital footprint is constantly growing and changing. It is a large undertaking to take the necessary steps to make sure that a website is web accessible. A great amount of effort also goes into ensuring that the same website stays web accessible over time, or rather, that the assurance of web accessibility is an ongoing process. It is only by precisely testing your website can you effectively address accessibility issues or problems in the environment.

But, what do you think is the best way to carry out accessibility testing to ensure accurate and actionable results? The key here is to successfully test web accessibility through a consistent approach or methodology. A thoughtful and comprehensive process that has the ability to maximize the outcome makes all the difference to ensure your website and applications are accessible to all users, regardless of physical ability.

What are some of the questions you have to consider before you successfully test a website or software for accessibility testing?

- Are instructions provided as a part of user documentation or manual?
- Is it easy to understand and operate the application using the documentation that is provided with the application?
- Are tabs ordered logically to ensure smooth navigation?
- Are shortcut keys provided for menus?
- Does the application support all operating systems?

- Are all labels written correctly in the application?
- Is the color of the application flexible for all users?
- Are images or icons used appropriately so that it is easily understood by the end users?
- Does the application have audio alerts?
- Is the user able to adjust audio or video controls?
- Can the user adjust or disable flashing, rotating or moving displays?
- Is the highlighting visible with inverted colors?
- Are audio and video related content properly heard by people who are disabled?
- Will the training provided to users with disabilities enable them to become familiar with the software or application?

Hence, these are some of the questions that you have to deal with before you can be absolutely sure that your website is web accessible. Making sure that your website answers all these questions desirably is the key to making your software perfect for people who suffer from disabilities. Through your efforts to make your website or software web accessible, you are contributing towards a noble goal of creating a paradigm shift, wherein all websites that are developed and created in the future are web accessibility tested for people who suffer from disabilities.

Conclusion

Not every website will have the fortune of receiving an accessibility evaluation by experts and a suite of paid test subjects. But any web developer can learn the principles of accessibility and try to implement those principles in the code that they write. Then, they can submit the results of their efforts to user mailing lists to be privy to more problems and then feed their results back for future development along the same lines. This is the beauty and simplicity of web accessibility testing.