Web Accessibility Research

Accessibility, by definition, includes all activities related to web designing and developing those that include websites, tools, and technologies to make their effective usage possible for people experiencing disabilities. Non-barrier perceiving, navigation through, and interaction with content on the web must be available to all users regardless of disabilities, whether based on visual, auditory, motor, or cognitive impairments. Web accessibility is being governed by the Web Content Accessibility Guidelines (WCAG), which are set by the W3C. These are the broad guidelines for best practices to make your digital content available for all.

Principles of Web Accessibility

There are four main principles in which the WCAG is based on, which are found considerable in making web content accessible to every person. The acronym representing these four principles is as follows: POUR- Perceivable, Operable, Understandable, and Robust**:**

1. Perceivable

All users, including those with disabilities, should be able to present present content in a way that could be comprehended. To this end: These most important ones should be considered:
Give alternative text (alt text) to images.
Caption and transcribe audio and video material.
A readable contrast between text and background is necessary.
Example: The BBC websites have provided transcripts on video contents, plus adaptions allow users to configure different text sizes.

2. Operable

Users should easily navigate the site and interact with it even without the use of a traditional mouse. Key elements include the following:
All functionalities must be accessible by keyboard alone (keyboard accessibility).
Avoid the content with seizure inducing flashing animations.
It has many ways for the users to find their own way into the site, like searching and clear structure of the site.
Example: Wikipedia allows its site to be navigated through keyboard shortcuts and provides clear headings and menus.

3. Understandable

That means the information can be easily read and operated. It has to include:
Using a plain and clear reading language.
Keeping navigation and behavior consistent and predictable.
Providing input assistance by error messages upon filling out the forms.
Example: Google Forms provide real-time validation messages ensuring correct information is entered before submitting.

4. Solid:

Websites should work well using different technologies and with assistive devices. These include:

Use semantic HTML and proper coding practices to ensure accessibility to screen readers. Make sure the website runs in different web browsers and devices.
Example: Apple has its website designed to work with screen readers such as VoiceOver, thus improving access for visually impaired users.
Common Dispensations of Accessibility in Existing Websites
The situation is now; despite increasing awareness of web accessibility, many still do not measure up to it. The following are just a few of the accessibility issues:
Lack of alternative text, making content unavailable to visually impaired users.
Poor contrast between focus and background that limits text readability in reduced vision. Contrast between text and background is not enough for reading by low vision users. Forms that are not labeled or fail to identify an error render them inaccessible to users who rely on assistive technology. A navigation that is non-keyboard friendly excludes users who cannot use a mouse. Example: LinkedIn has been criticized for being without alt text on its images; thereby, it becomes difficult for visitors who use screen readers to maneuver through the site.

Implementing Web Accessibility on My Project

These accessibilities are to be incorporated into my website project:

- Alt text on images for the understanding of visually impaired users.
- High contrast color schemes for support for those with vision impairments.
- Keyboard navigation so that even if the user does not have a mouse, all interactive elements are accessible using only the keyboard.
- Accessible Rich Internet Applications (ARIA) attributes to improve facilitation with assistive technology.
- Responsive layouts, dynamic-screen distribution, allowing perfect operation of the site on many screens of different dimensions and devices.
- Error messages and validations clear for the entry of information to ensure that mistakes can be corrected by users while filling out forms.

The above features were intended to provide an open-access web arena for all users irrespective of ability. The objective is to create equal opportunity for everyone in information accessing and digital service beyond compliance with guidelines but into a true sense of inclusiveness.