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6/10/2023

Use of screen reader reflection

Screen readers offer many advantages for those with visual and other impairments and allow them to use digital devices independently and productively in the same ways as those without impairments. For this screen reader reflection, I tested the NonVisual Desktop Access (NVDA) screen reader, which can be downloaded at no cost from the NV Access website. One major advantage that NVDA has over the other most commonly used screen reader, Job Access With Speech (JAWS), is that it is open source and free to use. Users are also free to modify the NVDA code and improve the software to suit their needs. The goal of NV Access is to provide a screen reader to the largest number of people possible, even those who cannot afford it, which is a key component of increasing accessibility for all, no matter their abilities or barriers they face.

Advantages of screen readers

Screen readers have many advantages, including enabling individuals with visual impairments to access and interact with digital content that would otherwise be inaccessible. They convert text, menus, buttons, and other on-screen elements into speech or Braille output, allowing users to navigate, read, and interact with documents, websites, applications, and more. They also support independence and productivity by allowing visually impaired users, and those with other impairments, to use computers and other electronic devices in the same way as those without impairments. In both of the screen reader videos in the course materials, as well as others presented on the Axess Lab website, users had increased the reading speed significantly, in one case to 450 words per minute. The ability to read the screen at very high rates of speed can increase productivity and allow visually impaired people to use digital devices as well or better than sighted users.

Impressions of using NVDA

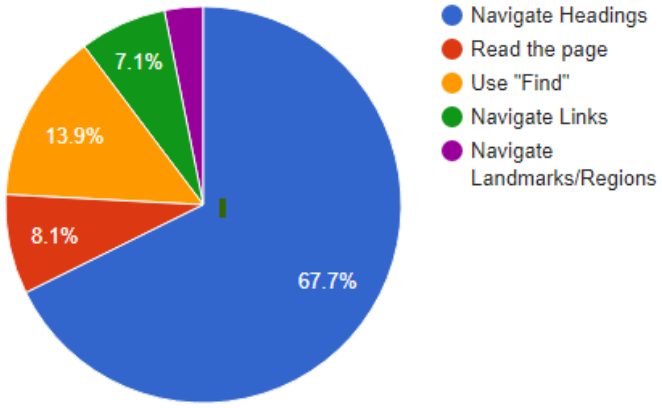
For the most part, using NVDA was intuitive, and I was able to navigate basic features fairly quickly. The main challenge for me is that I kept getting lost on web pages and had to find my way back to a place where I knew where I was. I also had to adjust to having a voice reading everything on the screen. Because I was not especially adept at using the software, having a voice read everything on the screen was distracting for me, and I needed to keep pausing the voice so I could find my place in what I was doing.

The feature I used most was navigating by headers, which according to a recent WebAIM survey, is the most common way for people with visual impairments to navigate websites. Approximately 68% of survey takers reported using headers as the primary way to navigate long pages with a lot of information (*WebAIM: Screen Reader User Survey #9 Results*, 2021). It was also interesting to see that navigating by header was more common among advanced

users. Beginner users reported using the “find” feature in a browser more often. Even though I consider myself a beginner user, it did not occur to me to use that feature.

Figure 1

When trying to find information on a lengthy web page, which of the following are you most likely to do first?



Challenges of using NVDA

One of the biggest challenges that I found to using screen reader software was the learning curve. Because each screen reader has so many features and has a wide range of compatibility with software programs and the operating system, the software can be complex. There are a large number of key combinations to learn to effectively navigate websites using a screen reader. I feel like I barely scratched the surface with the features and key combinations I used. While that allowed me to do the basics, learning to use the software fully would require a great deal of practice.

A second challenge I found was that the websites I chose to test the software on seemed very complex in terms of structure. That made it difficult to guess where I was on the page and to picture how the information was laid out on the page. Again, with practice, I might have gotten better, but I found that trying to navigate sites that are not structured in a predictable way can present challenges for screen readers.

It is important to note that my experience as someone who is not visually impaired cannot be compared to a visually impaired person’s experience, and I could stop using the software whenever I chose. People with visual impairments unfortunately do not have that choice, so they must learn to use the software productively, even when sites are not built with accessibility in mind.

Recommendations

Web developers, teachers, and instructional designers have an important role to play in making digital experiences more inclusive and accessible for individuals who rely on screen readers. In each of the roles, it is important to implement well-structured content, alternative text descriptions, descriptive text links, and other best practices when designing online and course content.

Those developing content should also test their materials with screen readers and accessibility checkers to ensure that all content works as expected for the widest number of users. Ensuring accessibility for those who use screen readers is one part of the larger goal of making materials accessible for all, including those with physical and motor disabilities, cognitive impairments, and hearing disabilities. These efforts can contribute to an environment where everyone, regardless of ability or impairment, can access information, participate fully, and achieve their educational or professional goals.

References

WebAIM: Screen Reader User Survey #9 Results. (2021). https://webaim.org/projects/screenreadersurvey9/#used