



Top 10 Takeaways

Screen Readers for Testers

1 Functional Testing vs. Use Case Testing

Functional testing verifies that a website conforms with user requirements. Testing the navigation to and interaction with links on a website is one example of functional testing. Use Case testing is another type of functional testing. We create a start to finish scenario in which someone with a disability is using the product, along with what we expect to happen at each step, and then confirm whether or not our expectations are aligned with reality.

2 JAWS

Generally, when performing functional testing with a screen reader, you should use the default settings. Screen readers are designed to be used with the keyboard. A screen reader like JAWS has a variety of shortcuts you can use when testing.

3 Read by Line, Word, or Character

The most common screen reader command is “read by line,” which tells the screen reader to announce the content one line at a time. Press the DOWN ARROW to read the next line, and press the UP ARROW to read the previous line. You can also read one word at a time. Press JAWS key + Right Arrow to read the next word and JAWS key + Left Arrow to read the previous word. To read one character at a time, press the Left arrow to move to the next character and Right arrow to move to the previous character.

4 Navigating by Headings or Links

JAWS provides keyboard shortcuts for navigating to headings and links on a web page. To move to the next heading, press the H key. To the previous heading, press SHIFT+H. To navigate to links, press U for unvisited links or V for visited links. You can also view the elements in a list by pressing JAWS Key + F7 for the links list and JAWS Key + F6 for the headings list.

5 Testing the Tab Order

When a screen reader is active, press the Tab key to navigate the page by elements, such as forms or links. Press Shift + Tab to return to the previous element. The tab order should be logical -- meaning in most cases it should be left-to-right, top-to-bottom – and you should be able to access every element on the page with the keyboard.

6 Testing Form Labels

Every field in a form must have a programmatic label. Turn on your screen reader, navigate to each form field, and verify that the screen reader can tell what each field is for. Test form fields with more than one screen reader, because some screen readers might be able to infer the purpose of the field from nearby text, while other screen readers take a more literal interpretation – either the programmatic label is there or it isn't.

7 Verifying Error Messages

An accessible form must display clear error messages. Ensure that these messages tell a screen reader user exactly what the error is, and where the error is located. Ensure that if color is used to indicate fields in error, a textual equivalent is also provided.

8 Roles and States of Elements

Specifying a role for a given element tells a screen reader user exactly what it is. JAWS will announce the role of an element when specified by using standard HTML elements or providing the role attribute for a custom control (i.e. anchors, buttons, etc. or role="button"). Additionally, screen reader users need to know the state of these elements - what is selected and what isn't. When navigating with JAWS, verify that the state of an element is announced (i.e. selected, expanded, collapsed, etc.).

9 Limitations of Functional Testing

Functional testing will let you find things that other testing methods won't let you find. However, it can be much harder to determine the root cause of an issue. A screen reader such as JAWS is good at making guesses. For example, JAWS can sometimes guess what a label is, even if the field has no label. Testing with multiple screen readers can be advantageous in situations like these, because another screen reader (such as NVDA) may produce a different outcome.

10 Screen Reader Differences

Screen readers take a snapshot of a webpage, and place the content in a virtual buffer. Not all screen readers interact with the virtual buffer in the same way. JAWS and NVDA, for example, have differences with on-click handlers when navigating the virtual buffer. It is possible to get different results when using different screen readers, and therefore, it may be beneficial to perform functional testing with multiple screen readers.