Using Braille on the Web

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# Overview

You can read almost any web page or app by touch by connecting your screen reader with a digital braille display. You can improve your understanding of content shown on screen when accessing it with both speech and braille. As with reading anything in braille, you will also benefit by freeing your ears to hear the people and environment around you.

In this session you will discover tips for getting the best from accessing the web and apps with braille.

However, incorrectly coded web pages including unlabelled links and buttons and graphics may also be problematic for braille readers. You should report such issues to the website owner and recommend they follow the W3C Web Accessibility Guidelines.

# Objectives

* Recognise web page structure, text styles, and control types displayed in braille.
* Understand the commands needed to navigate web content with braille.
* Become familiar with tools to reflow and search web content from a braille display.

# Introduction

Most modern smartphones, tablets and laptops include screen reading software that quickly and easily converts text shown on screen to your choice of braille code. For example, VoiceOver on iPhone. You can add third-party screen reading software, such as JAWS or NVDA, to Windows laptops to optimise productivity. Specialist braille note takers also offer braille access to the web through custom web browsers or bespoke services. For example, BrailleNote and BrailleSense. Depending on your individual requirements, you should consider the pros and cons of built-in screen reading software vs 3rd party specialist tools. What training, support and other help is available.

As blind people we need a selection of tools and techniques to negotiate what can be a challenging environment. Even a web site claiming to be accessible, may not be usable with braille. When sighted people visit a web page, they do not read the entire page in a linear way from top to bottom. They go straight to the information that is important to them. We must acquire skills to do the same.

# Benefits of Accessing the Web with Braille

* Reinforce accurate spelling of unfamiliar words and names. For example, "Pfizer", recipes, email addresses etc.
* Free your ears to hear people around you, such as looking up information while on the phone or at a meeting.
* Dynamically adjust reading speed and find your own tone of voice rather than relying exclusively on the speech and pronunciation provided by your screen reader.

# Identifying Controls and Formatting

When you arrive at a web page using your screen reader and braille display, the first think you will notice are extra letters and numbers inserted within the braille to indicate visual components. For example:

* LNK for Links
* H1 for Level 1 Headings
* LI for List Items
* TBL for Tables
* GRA for Graphics
* BTN for Buttons

Exactly what each group of letters represents and the extent to which you can change it will depend on your screen reader. Speech and braille access together can help you identify how your screen reader describes these elements in braille. Try arrowing down some popular web pages and compare your screen reader speech and braille output to identify common elements.

# Reflowing Text and Reducing Clutter

Modern web browsers include a Reader mode that can help with reducing the amount of clutter you encounter reading most web pages. For example, on iOS in Safari this button is left of the address bar. In some Windows web browsers press Control+Shift+R. The web browser Reader Mode will also improve the experience of reading with speech and magnification. Does not work on all pages.

# Getting Around Web Pages

Quick navigation keys jump to the next and previous element of a type. For example, in NVDA on Windows press the following to go to the next element of that type. Hold Shift and press the letter to move back to the previous element of that type.

* B for Button
* E for Edit Field
* H for Heading
* L for List
* K for Link
* D for Landmark

The Input Help mode of some screen readers can assist with discovering navigation commands.

On Apple devices The Voiceover Rotor determines the element that is navigated when using Up or Down arrow on your braille display. Turn the Rotor with Space Dots 5 6, or Space Dots 2 3. Choose which types of elements are included in the Rotor from Settings>Accessibility>VoiceOver>Rotor

Screen reader element list utilities provides an index of items found on the current page. Often this can be easier to navigate from a braille display. For example, in NVDA, while on a web page, press the NVDA key + F7. In VoiceOver perform a Two-finger triple tap to open the Item Chooser, or from your braille display Dot 2 + Dot 4 + Space Bar.

Find enables you to locate a specific piece of information. In VoiceOver from your braille display press Space + F type your text and press Enter.

# Form Filling

* \* Cursor routing keys can activate controls.
* \* Check your screen reader documentation to learn the braille command for Tab and back Tab. In VoiceOver Tab is Dot 2 + Dot 3 + Dot 4 + Dot 5 + Space bar and Shift Tab is Dot 1 + Dot 2 + Dot 5 + Dot 6 + Space bar
* \* In some form fields you may be required to write using Computer Braille. The Braillists Foundation has productid a Masterclass on Computer Braille. See the resources section of this handout.
* \* When clicking a link that adds info to the page, such as opening a calendar, often the new information is shown at the end of the page and not inline. Use your screen reader's jump to end of document command to find additional information.

# Conclusion

Accessing web pages using braille can speed up your understanding of spelling, telephone numbers, addresses, hashtags etc.

You can discover how web elements are represented in braille by your screen reader by using a combination of speech and braille access.

Quick navigation keys, elements lists, and browser reader mode improve the braille experience.

# Further Resources

How to Use Reader View in Your Desktop Browser

https://www.groovypost.com/howto/use-reader-view-desktop-browser/#:~:text=the%20address%20bar.-,Go%20to%20the%20web%20page%20you%20want%20to%20read%20and,the%20article%20for%20better%20readability.

Common braille commands for VoiceOver on your iPhone, iPad and iPod touch – Apple Support (UK)

https://support.apple.com/en-gb/HT202132

NVDA Screen Reader Braille Key Assignments

https://www.nvaccess.org/files/nvda/documentation/userGuide.html#toc138

Use a Braille Display with Your Amazon Fire Tablet

https://www.amazon.com/gp/help/customer/display.html?nodeId=201829370

Introduction to Computer Braille by James Bowden

https://www.braillists.org/wp-content/uploads/ho\_x032.docx