

Accessible Digital Collections

Prepared for the 2022 Iowa Library Association Conference by Melody Dworak and Stacey McKim, Iowa City Public Library

Welcome to the accessibility features on your smartphone!

Think about how you navigate around on your phone as a sighted user, opening apps, switching apps, reading webpages, receiving messages, and so on.

Smartphone accessibility features help people who can't read standard print accomplish the same tasks by using voice commands, magnification, and touch gestures, so everyone has power over their device.

Screen Readers

Screen readers read the text on a smartphone screen aloud, along with instructions and any text associated with links, buttons, and actions you can take. Finger gestures navigate within a page and make selections.

Smartphones come with built-in screen readers:	
Android TalkBack 	iOS VoiceOver 



Warning! Before you turn on your screen reader, make sure you know:
1) how you'll turn the screen reader off
2) how you'll unlock your phone if needed

Turning on your screen reader

Android	iOS
<p>There's more than one way to turn TalkBack on and off, depending on your device and setup:</p> <ul style="list-style-type: none">• Ask Google Assistant• Go to Settings > Accessibility > TalkBack But first activate the "TalkBack shortcut" there, so that holding the volume buttons for 3 seconds will toggle it off!• Press both volume buttons for 3 seconds• Press the power and volume down buttons on your phone for a few seconds	<p>There's more than one way to turn on VoiceOver, depending on your setup:</p> <ul style="list-style-type: none">• Siri can be used to turn Voice Control on, and then Voice Control can turn on VoiceOver.• Go to Settings > Accessibility > VoiceOver• Press your phone's side button 3 times to reach Accessibility Shortcuts, if you have already set them up

Tutorials

Practice the gestures until they become second nature in your phone's built-in tutorial space.

Android	iOS
Settings > Accessibility > TalkBack or draw a big L to open the TalkBack menu.	Settings > Accessibility > VoiceOver > VoiceOver Practice

Gestures

Screen readers rely on gestures, or specific finger movements on the screen. Note that gestures are the same on all iPhones and may vary among Android phone models. Get comfortable with these essentials:





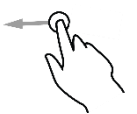

Action	Gesture	
Select an item	Tap once	
Activate a selected link	Double-tap	
Stop reading	2-finger tap	
Go to the next item	Swipe left to right	
Go to the previous item	Swipe right to left	
Explore by touch, hearing what you're hovering over	Drag your finger around, maintaining contact	

Image attribution: Gestureworks <https://gestureworks.com>

Specialized actions	Android	iOS
Scrolling	2-finger swipe up or down	3-finger swipe up or down
Return to the previous screen	Use the Android back button	2-finger scrub: use 2 fingers to draw a big "z" on your screen
Open screen reader menu	Draw a big, quick L Or tap with 3 fingers	Two-finger quadruple tap

Speech rate

Finally, the screen reader's speaking speed is adjustable for different user needs. Adept users can get through a long page more quickly with a fast speaking pace.

Android	iOS
Settings > Accessibility > TalkBack > TalkBack settings > Text-to-speech	Settings > Accessibility > VoiceOver > Speaking rate (a slider with tortoise and hare icons)

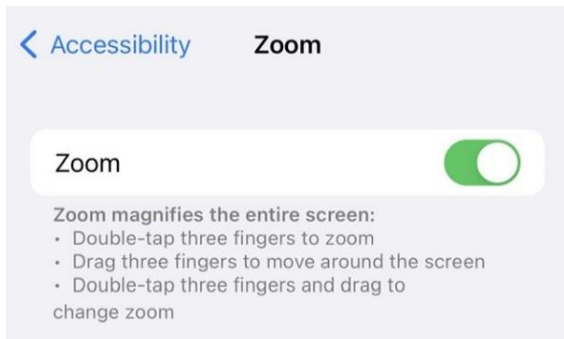
Voice Commands

When you have the screen reader running, voice commands can make it much easier to open the Libby app and speak your search terms!

Android	iOS
<p>Google Assistant answers to “OK, Google” or “Hey, Google.”</p> <p>Voice Access is a separate app you can install to use speech commands on your Android to open apps, navigate around, and enter text hands-free.</p>	<p>Siri can be used to turn Voice Control on, or go to Settings > Accessibility > Voice Control.</p> <p>These are helpful Voice Control commands:</p> <ul style="list-style-type: none"> • Open Libby • Open App Switcher • Go Back • Go Home • Tap [button or item name] • Tap Search

Magnification

Magnification, or zooming in within the phone’s screen, is a powerful tool for individuals with vision loss. Unfortunately, magnification doesn’t work in conjunction with a screen reader. To try it out:

Android	iOS
<p>Settings > Accessibility > Visibility enhancements</p> <p>Set the Magnification shortcut</p> <p>You can magnify the full screen or use the Magnifier window.</p>	<p>Settings > Accessibility > Zoom</p> <p>Turn on the Zoom button</p> <p>Under “Zoom Region,” you can switch to see the difference between Full Screen and Window Zoom. Window Zoom retains some of the page context.</p>  <p>The screenshot shows the 'Zoom' settings page in iOS Accessibility. At the top, there's a back arrow and the word 'Accessibility', followed by the title 'Zoom'. Below this, the 'Zoom' toggle switch is turned on, indicated by a green circle. Underneath the toggle, a text box explains: 'Zoom magnifies the entire screen:' followed by three bullet points: '• Double-tap three fingers to zoom', '• Drag three fingers to move around the screen', and '• Double-tap three fingers and drag to change zoom'.</p>

<div data-bbox="284 94 621 703"> <div> <div><</div> <div>Magnification</div> </div> <div></div> <div> <div>Magnification shortcut</div> <div> <div></div> <div></div> </div> </div> <div> <p>You can magnify the full screen or use the Magnifier window. If you choose the Magnifier window, you'll see the zoomed-in window immediately after using the shortcut. If you choose full screen, you can choose to zoom in continuously or temporarily.</p> <p>To zoom, use the Magnification shortcut, then tap anywhere on the screen. If you've set magnification as the result of a triple tap, you can also zoom by triple tapping.</p> <p>Once you've zoomed, you can swipe with 2 or more fingers to scroll and pinch to adjust the zoom level.</p> <p>To stop zooming, use the Magnification shortcut again or triple tap again.</p> <p>You can also zoom temporarily by using the Magnification shortcut and tapping and holding anywhere on the screen or triple tapping and holding. Lift your finger to zoom out again.</p> </div> </div>	
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Libby



Now we’re ready to try our screen readers in Libby!

To adapt using Libby audiobooks for a person who cannot read standard print, think of the basic steps to success for all library patrons.

- A patron will need to:
1. open Libby and log in
 2. find a good book
 3. check out the book
 4. start enjoying the book

These instructions do not cover logging in to Libby, as the process differs by library and patrons might appreciate help from library staff the first time they set up the app.

Opening the Libby app

Just getting the app open can be a new challenge!

Take your time as you figure out how to reach your pages of apps and find Libby – or employ your phone’s app search feature to get there without all the searching.

Android	iOS
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<p>Use a voice command to open the app, such as, "Hey Google, open Libby."</p> <p>Or use gestures:</p> <p>Swipe up with 2 fingers for access to all apps, if Libby isn't an icon on the home screen.</p> <p>2-finger swipe left and right to move between pages of apps.</p> <p>Explore by Touch and hover over the apps to find Libby, or start at the top and swipe-right to hear each one. Double-tap when you hear "Libby."</p>	<p>Use a voice command to open the app, such as, "Open Libby" or "Open the Libby app."</p> <p>Or use gestures:</p> <p>3-finger swipe left and right to move between pages of apps or aim for the App Library at the far right.</p> <p>You can drag your finger around and hover over the apps to find Libby, or swipe-right to hear each one. Double-tap when you hear "Libby."</p>
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Once you're in, these are the names of the 5 navigation buttons at the bottom of Libby:



Search Tab



Library Tab



Menu Tab



Shelf Tab



Timeline Tab

You might also have luck using the "Navigation" option that occurs at the start of a page. It opens a "popover" window with these 5 options.

Searching in Libby

Seeking a specific book in Libby by using voice commands or typing via a screen reader can be a very different experience. Some challenges: voice commands misspell the text, background conversations are transcribed accidentally, not knowing the command for a particular function, and difficulty with typing.

Here's how to get started on all phones:

- Slide fingertip toward the bottom left-hand corner of Libby and stop when you hear "Search tab."
- Double-tap to select.
- Swipe left-to-right until you hear "Search the catalog."
- Double-tap to edit.
- Try typing or using voice commands to search for a title, author, or topic.

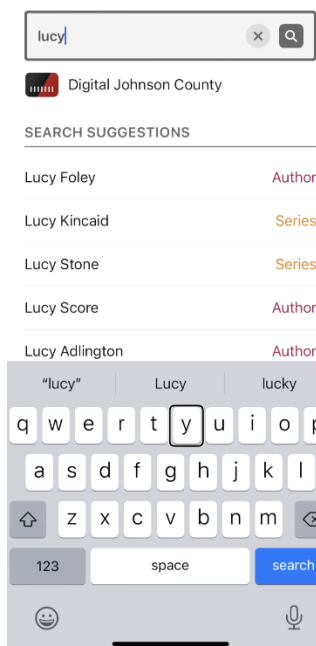
Android		iOS
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How to type: Explore by Touch slowly and wait to hear the letter before releasing your finger. You'll hear the letter again to indicate it was typed.

You don't have to double-tap the backspace button. With one tap, it tells you "x deleted."

After you've searched once, it retains those characters in the search box. The option after "Edit search box" is "Reset Search Field Button" and it's much easier than backspacing.

Swipe or Explore by Touch for the search button.



How to type: Drag your finger around on the keyboard until you hear your letter spoken. Double-tap anywhere to type that letter.

Voice command suggestions:

Speak title or author name. You'll hear the text read back to you.

Not right? Speak "double-tap reset search field" to delete the current text and try again.

If correct, either

- 1) Speak "double-tap submit search,"
- or 2) Slide your finger to the top righthand corner until you hear "Submit search button."

Browsing in Libby

Patrons can find a book fast by browsing, or those who want a particular subject or style can explore.

Gestures are the same for Android and iOS devices from here on.

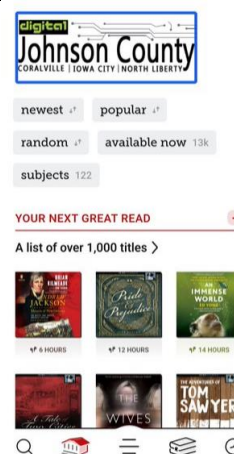
Open the "Library tab" by exploring to the bottom left or swiping.

Swipe-right or slide your finger to reach the 5 categories at the top of the Library screen: **newest**, **popular**, **random**, **available now**, and **subjects**.

Double-tap on "subjects," for example.

Swipe to hear subject headings and the number of items in each category. Double-tap on your preferred subject.

After making a selection, you'll hear something like "1,000 books, comma, 500 audiobooks." Double-tap "audiobooks," which is a link.



Lists of books

These can be search results or lists that came from browsing.

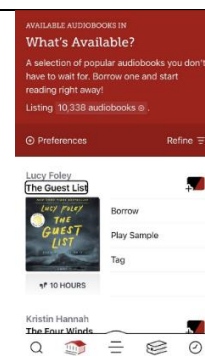
Swipe to hear the main links, such as title, availability, and borrow.

Listen for the words "Audiobook" or "Audiobook link" followed by a title and author. This is the link that gets you to the title page.

Notes:

The book cover images are completely ignored by the screen reader.

Advanced users might want to navigate by headings on this page to skip over the repetitions. Find "Reading controls" instructions below. "



Title pages

With the title of an audiobook selected, double-tap to open its title page.

In addition to other information about the book, you'll want to hear its summary:

- After hearing the book's title, swipe several times to aim for the summary. When you get past the suggested tags and any book reviews, a paragraph summary follows.

Check out a book

On a search results screen or title page, swipe until you hear "Borrow." Double-tap.

Swipe-right to hear the information about borrowing this book.

When you hear it say 7, 14, or 21 days, double-tap if you'd like to change the checkout length. You might need to slide your finger to reach the "popover" window, then swipe to the desired length. Double-tap.

Swipe-right until you hear "Borrow." Double-tap.

Swipe-right until you hear "Open audiobook." Double-tap.

Listen to an audiobook

You're in an audiobook!

Swipe to reach the "play button" or slide your finger to find it. Double-tap.

Congratulations if you got to an audiobook and got it to play!

Want to adjust the playback speed? Swipe to find that setting or slide your finger to the top center. Swipe through the preset speeds or try the slider.

Done?

Swipe left multiple times or drag your finger up to the top left to reach the "Close Audiobook" back button. Android users could use their Android back button, or iOS users could use the 2-finger scrub gesture.

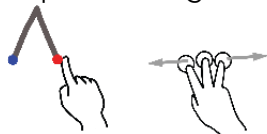
Optional Advanced Settings

Reading controls

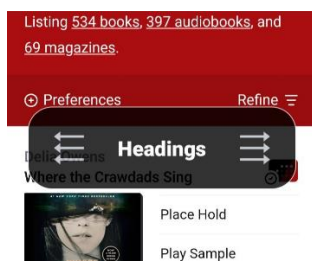
Advanced users can explore this cycle of settings to quickly customize the reading experience. Swiping through a list of books can take a long time, right? To address that, set your screen reader to a different navigation level, and it will jump over some of the text and just read out headings.

Android	iOS
Open the reading controls in one of these ways: <ul style="list-style-type: none">Swipe up and then down	Use two fingers and twist right as if you are turning a dial. This is known as the "rotor."

- 3-finger swipe to the right or left

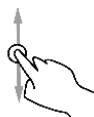


Move between the controls by swiping left and right, and alter each setting by swiping up and down.

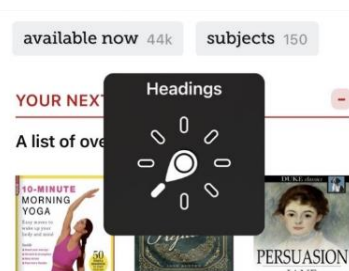


Once it's set:

- Swipe left/right for normal navigation.
- Swipe up/down for headings.



Repeat that action until you hear "Headings."



Once it's set:


- Swipe left/right for normal navigation.
- Swip up/down for headings.



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Voice settings

Depending on your device, you might not like the default voice. If you want to try changing it:

Android	iOS
Settings > Accessibility > TalkBack > TalkBack settings > Text-to-speech > Preferred engine	Settings > Accessibility > VoiceOver > Speech > Voice
Explore those options, or click on the gear icon next to "Preferred engine." You may need to "Install voice data."	Explore those options. You may need to download a new voice by tapping on the  cloud icon.


Usage hints

Depending on your device, your screen reader might say things like "Tap twice" or "link" every time it lands on a link. For a less overwhelming experience, see if you can remove those prompts:

Android	iOS
Consider turning off "Speak usage hints" in Settings > Accessibility > TalkBack > Talkback settings > Verbosity	Consider turning off "Speak Hints" in Settings > Accessibility > VoiceOver > Verbosity
Check out the other settings there, too!	Check out the other settings there, too!

Libby preferences

If you like to use the Preferences and Refine controls in Libby, give them a try with the screen reader to see if you'd recommend that approach to others.



Preferences: Pop-up windows like this can be a bit tricky with a screen reader. If it doesn't read "Apply preferences" aloud for you, try Explore By Touch to get to it.

Remember that preferences are kept for all future sessions, so anyone who will exclusively use audiobooks could set that here.

Refine: Best for temporary refinements (eg. format and availability) and browsing (eg. subject and sort by).



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