

Assistive Technologies Available to Students

This document summarizes research on the assistive technologies that are available to students at CUNY, some of which are provided by the device, operating system, or web browser in use and some of which are available through the college Offices of Disability Services or from <http://cats.cuny.edu/>.

Notes:

- There is a new CUNY Policy on accommodation: [Policy 7.10 Effecting Reasonable Accommodations and Academic Adjustments Procedures Relating to Accommodations and Accessibility for Students](#)
- With Ally, faculty are in a better position to remediate inaccessible course content and students have alternative formats available to them for course content that is not accessible.
- Students requiring assistive technology may already have their preferred assistive technology on their device(s) before attending CUNY.

Application-specific Assistive Technologies, Features, and Settings

Application	Assistive Technology Name	Assistive Technology Function	Use for	Information	Notes
Brightspace LMS	Ally	Alternative course content formats	<ul style="list-style-type: none"> • ePub • Electronic Braille • MP3 audio • BeeLine Reader • Immersive Reader (online) • Language translation 	<ul style="list-style-type: none"> • Alternative Formats 	<ul style="list-style-type: none"> • Course content only (not student content or navigation) • Faculty use Ally to assess accessibility of content

Device-specific Assistive Technologies, Features, and Settings

Android Device

Device	Assistive Technology Name	Assistive Technology Function	Use for	Information	Notes
Android Device (phone/tablet)	TalkBack	Screen reader	<ul style="list-style-type: none"> • Navigating device • Navigating screen • Navigating website 	<ul style="list-style-type: none"> • Get started on Android with TalkBack • TalkBack tutorial 	<ul style="list-style-type: none"> • Google Accessibility Features website • YouTube: Carrie on Accessibility

Device	Assistive Technology Name	Assistive Technology Function	Use for	Information	Notes
Android Device (phone/tablet)	Voice Access	Hands-free access	<ul style="list-style-type: none"> • Navigating device • Navigating screen • Navigating website 	<ul style="list-style-type: none"> • Get Started with Voice Access spoken commands 	Google Accessibility Features website
Android Device (phone/tablet)	Assistant	Voice typing	<ul style="list-style-type: none"> • Control device and applications • Dictate text 	<ul style="list-style-type: none"> • What you can ask Google Assistant 	Google Accessibility Features website
Android Device (phone/tablet)	Live Transcribe	Speech-to-text transcription	<ul style="list-style-type: none"> • Providing text transcription of audio 	<ul style="list-style-type: none"> • Use Live Transcribe 	Google Accessibility Features website

Chromebook Device

Device	Assistive Technology Name	Assistive Technology Function	Use for	Information	Notes
Chromebook Computer	Caret browsing	Keyboard navigation	<ul style="list-style-type: none"> • Navigating website 	<ul style="list-style-type: none"> • Use a text cursor to navigate & select text 	
Chromebook Computer	ChromeVox	Screen reader	<ul style="list-style-type: none"> • Navigating device • Navigating screen • Navigating website 	<ul style="list-style-type: none"> • Use the build-in screen reader 	Chromebook Accessibility website
Chromebook Computer	Live captions	Speech-to-text transcription	<ul style="list-style-type: none"> • Providing text transcription of audio 	<ul style="list-style-type: none"> • Use captions on your Chromebook 	
Chromebook Computer	Magnify	Screen magnifier	<ul style="list-style-type: none"> • Increasing size of screen contents 	<ul style="list-style-type: none"> • Zoom in or magnify your Chromebook screen 	
Chromebook Computer	Type Text	Dictation	<ul style="list-style-type: none"> • Dictate text 	<ul style="list-style-type: none"> • Type text with your voice 	

iOS Device

Device	Assistive Technology Name	Assistive Technology Function	Use for	Information	Notes
iOS Device (iPhone/iPad)	Change display colors	Screen Contrast	<ul style="list-style-type: none">• Making screen content easier to read	<ul style="list-style-type: none">• Change color on iPhone to make it easier to see items on screen	
iOS Device (iPhone/iPad)	Voice Control	Control and navigate iOS by voice command	<ul style="list-style-type: none">• Control Windows and applications• Dictate text	<ul style="list-style-type: none">• Voice Control: A new way to control your Mac, iPhone and iPad entirely with your voice• Use Voice Control to interact with iPhone	
iOS Device (iPhone/iPad)	VoiceOver	Screen Reader	<ul style="list-style-type: none">• Navigating screen• Navigating website• Image descriptions	<ul style="list-style-type: none">• Use VoiceOver in apps on iPhone	Get started with accessibility features on iPhone
iOS Device (iPhone/iPad)	Zoom	Screen magnifier	<ul style="list-style-type: none">• Increasing size of screen contents	<ul style="list-style-type: none">• Zoom in on the iPhone screen	

Mac Device/Operating System

Device	Assistive Technology Name	Assistive Technology Function	Use for	Information	Notes
MacOS	Change display colors	Screen Contrast	<ul style="list-style-type: none">• Making screen content easier to read	<ul style="list-style-type: none">• Change display colors on Mac to make it easier to see what's onscreen	

Device	Assistive Technology Name	Assistive Technology Function	Use for	Information	Notes
MacOS	Kurzweil 3000	Alternative input and output	Alternative inputs: <ul style="list-style-type: none"> • Dictate text Alternative outputs for documents/content: <ul style="list-style-type: none"> • Read text aloud • Alternative fonts and text magnification • Contrast • Translation 	<ul style="list-style-type: none"> • Kurzeil 3000 	Additional reading, comprehension, and writing features
MacOS Computer	Live Captions	Speech-to-text transcription	<ul style="list-style-type: none"> • Providing text transcription of audio 	<ul style="list-style-type: none"> • Use Live Captions on Mac 	
MacOS Computer	Voice Control	Control and navigate MacOS by voice command	<ul style="list-style-type: none"> • Control windows and applications • Dictate text 	<ul style="list-style-type: none"> • Voice Control: A new way to control your Mac, iPhone and iPad entirely with your voice • Change Voice Control settings for accessibility on Mac 	
MacOS Computer	VoiceOver	Screen Reader	<ul style="list-style-type: none"> • Navigating screen • Navigating website • Reading application interface • Reading application, website, and web page content 	<ul style="list-style-type: none"> • VoiceOver User Guide 	
MacOS Computer	Zoom	Screen magnifier	<ul style="list-style-type: none"> • Increasing size of screen contents 	<ul style="list-style-type: none"> • Change Zoom settings for accessibility on Mac 	

Windows Device/Operating System

Device	Assistive Technology Name	Assistive Technology Function	Use for	Information	Notes
Windows Computer	Contrast	Control display color and contrast	<ul style="list-style-type: none"> Customizing Windows colors and contrast for easier reading 	<ul style="list-style-type: none"> Change color contrast in Windows 	
Windows Computer	JAWS	Screen reader	<ul style="list-style-type: none"> Navigating screen Navigating website Reading application interface Reading application, website, and web page content 	<ul style="list-style-type: none"> JAWS web page 	<ul style="list-style-type: none"> Free to CUNY students (see CATS website for information) CUNY-wide applications like CUNYfirst and Brightspace are tested with JAWS
Windows Computer	Kurzweil 3000	Alternative input and output	<p>Alternative inputs:</p> <ul style="list-style-type: none"> Dictate text <p>Alternative outputs for documents/content:</p> <ul style="list-style-type: none"> Read text aloud Alternative fonts and text magnification Contrast Translation 	<ul style="list-style-type: none"> Kurzeil 3000 	<ul style="list-style-type: none"> Additional reading, comprehension, and writing features
Windows Computer	Live Captions	Speech-to-text transcription	<ul style="list-style-type: none"> Providing text transcription of audio 	<ul style="list-style-type: none"> Use live captions to better understand audio 	<ul style="list-style-type: none"> Windows 11
Windows Computer	Magnifier	Screen Magnifier	<ul style="list-style-type: none"> Increasing size of screen contents 	<ul style="list-style-type: none"> Use Magnifier to make things on the screen easier to see 	
Windows Computer	NVDA	Screen reader	<ul style="list-style-type: none"> Navigating screen Navigating website Reading application interface Reading application, website, and web page content 	<ul style="list-style-type: none"> NVDA User Guide NVDA Quick Start Guide 	<ul style="list-style-type: none"> Open source provided by NV Access Download web page

Device	Assistive Technology Name	Assistive Technology Function	Use for	Information	Notes
Windows Computer	Windows Narrator	Screen reader	<ul style="list-style-type: none"> • Navigating screen • Navigating website • Reading application interface • Reading application, website, and web page content 	<ul style="list-style-type: none"> • Complete guide to Narrator 	
Windows Computer	Windows Speech Recognition	Control and navigate Windows by voice command	<ul style="list-style-type: none"> • Control Windows and applications • Dictate text 	<ul style="list-style-type: none"> • Windows Speech Recognition commands 	
Windows Computer	ZoomText	Screen magnifier	<ul style="list-style-type: none"> • Increasing size of screen contents 	<ul style="list-style-type: none"> • ZoomText web page 	<ul style="list-style-type: none"> • Free to CUNY students (see CATS website for information)

Native Web Browser Accessibility Features/Settings **

** Some browser accessibility features may draw upon or be provided by the device upon which it is run, such as Safari running on a Mac or iPhone.

Web Browser	More Information	Cursor (Caret) Browsing	Image Descriptions	Keyboard Navigation	Live Caption	Read Web Page Content	Simplify Text Layout	Visual Focus	Zoom Text	Accessibility Extensions
Chrome	Chrome Accessibility	Yes	Yes	Yes	Yes		Yes via Reading Mode	Yes	Yes	Yes
Edge	Edge Accessibility	Yes	Yes	Yes	Yes on Windows PC	Read Aloud	Yes via Immersive Reader	Yes	Yes	Yes
Firefox	Accessibility Features in Firefox	Yes		Yes					Yes	Yes
Safari on MacOS or iOS	Apple Accessibility			MacOS iOS	Yes	VoiceOver	Safari Reader		Yes	

ReachDeck vs Ally Feature Comparison

Based on initial research, the following table summarizes the accessibility enhancing features of ReachDeck Toolbar as compared to Anthology (Blackboard) Ally in Brightspace. If ReachDeck is added to Brightspace it is: a) not part of the current CUNY contract; b) must be manually started by the student; c) not universally available in all Brightspace iframes. Brightspace inserts icons next to course content to offer it in alternative formats.

Product Feature	Available in ReachDeck	Available in Ally	Equivalent in Device/Browser
Content as ePub (for iPad or e-book readers)	no	As download	Chrome and extension for Firefox
Electronic Braille (BRF version for electronic braille displays)	no	As download	
Audio (MP3 for listening)	Selection as download	As download	
BeeLine Reader (leverages BeeLine reader features)	no	As download	Extension for Chrome and Firefox
Immersive Reader (read aloud)	See Note 4	As download	yes

Product Feature	Available in ReachDeck	Available in Ally	Equivalent in Device/Browser
Language (machine translated version of displayed web page or document)	Realtime	As download	Extension for Chrome and Firefox
Picture dictionary for word selection	Realtime	no	Extension for Chrome and Firefox
Simplify displayed page	Conversion takes time and may not be useful in Blackboard	no	yes
Enlarge text as it is read aloud	Realtime	See Note 1	
Screen mask	Realtime	See Note 2	Browser extension
Read page or document content aloud	Realtime	See Note 3	yes

Notes:

1. Arguably, Immersive Reader in Ally with Read Aloud provides similar capabilities, but content has to be downloaded first.
2. While not a mask, BeeLine Reader can help with reading long passages and Immersive Reader may have a similar capability (Microsoft's does).
3. Many web browsers and operating systems can now read aloud. Additionally, Ally lets you download an MP3 to listen to or an Immersive Reader file that can be used with Read Aloud.
4. Ally provides read aloud as MP3 or Immersive Reader download while ReachDeck can read displayed content aloud in real time.