

# Accessibility with AI / Microsoft / Windows + 365

Andrew Balzer

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# Acknowledgement of Country





"Our mission is to empower every person and every organisation on the planet to achieve more."



# Promoting independent learning

**Accessible technologies** help students with disabilities unlock their full potential by addressing a diversity of needs:



## Learning

- Dyslexia
- Dysgraphia
- Dyscalculia



## Visual

- Low vision
- Blind
- Colorblind



## Hearing

- Deaf
- Hard of Hearing



## Mobility

- Cerebral Palsy
- Muscle Dystrophy
- Amputation



## Neurodiversity

- Autism
- ADD/ADHA
- Seizure



## Mental Health

- Anxiety
- Depression
- OCD

See Microsoft Accessibility features for every classroom: <http://aka.ms/AccessibilitySway>

# Empowering every student with Microsoft Education

All students can achieve more when they have access to the right tools.



## Immersive Reader

Assist with comprehension, fluency, and decoding

Word, OneNote, Outlook Web Access, and Edge



## Word Prediction

Save typing time and word input with predictive text in multiple languages

Windows 10



## Dictate

Use voice to dictate directly into documents

Word, Excel, PowerPoint, OneNote, Outlook



## Editor

Write easy-to-read documents

Word, Excel, PowerPoint, OneNote, Outlook



## Ease of Access

Make accessibility easier to discover, learn, and use

Vision, hearing, mobility, cognition

# There are many different types of disabilities—and most are invisible

Per the World Health Organization (WHO):

“Disability results from the interaction between individuals with a health condition [and] personal and environmental factors including negative attitudes, inaccessible transportation... and limited social support.”<sup>1</sup>

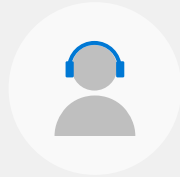
Some types of disabilities:



Mobility



Vision



Hearing



Neurodiversity

Disability is everywhere, even if not in plain sight

62%

of employees with disabilities in one study classified their disabilities as invisible<sup>2</sup>

>1B

of people today experience some form of disability<sup>3</sup>

10%

of people have access to the assistive devices they need<sup>3</sup>



# Microsoft Learning Tools Availability

Read Aloud & word/line highlighting	OneNote Desktop	OneNote Web	OneNote App	OneNote iOS	OneNote Mac	Word Web	Word Desktop	Word Mac	Word iPad	PowerPoint Web	Outlook Web	Outlook Desktop	Teams	Flipgrid Web, iOS, Android	Whiteboard	Forms	OneDrive + SharePoint	MakeCode	Minecraft EDU	Office Lens iOS, Android	Edge browser
Spacing and Font Size	OneNote Desktop	OneNote Web	OneNote App	OneNote iOS	OneNote Mac	Word Web	Word Desktop	Word Mac	Word iPad	PowerPoint Web	Outlook Web	Teams	Flipgrid Web, iOS, Android	Whiteboard	Forms	OneDrive + SharePoint	MakeCode	Minecraft EDU	Office Lens iOS, Android	Edge browser	
Page Colors	OneNote Desktop	OneNote Web	OneNote App	OneNote iOS	OneNote Mac	Word Web	Word Desktop	Word Mac	PowerPoint Web	Outlook Web	Teams	Flipgrid Web, iOS, Android	Whiteboard	Forms	OneDrive + SharePoint	MakeCode	Minecraft EDU	Office Lens iOS, Android	Edge browser		
Syllables	OneNote Desktop	OneNote Web	OneNote App	OneNote iOS	OneNote Mac	Word Web	Word Desktop	PowerPoint Web	Outlook Web	Teams	Flipgrid Web, iOS, Android	Whiteboard	Forms	OneDrive + SharePoint	MakeCode	Minecraft EDU	Office Lens iOS, Android	Edge browser			
Line Focus	OneNote Desktop	OneNote Web	OneNote App	OneNote iOS	OneNote Mac	Word Web	Word Desktop	PowerPoint web	Outlook web	Teams	Flipgrid Web, iOS, Android	Whiteboard	Forms	OneDrive + SharePoint	MakeCode	Minecraft EDU	Office Lens iOS, Android	Edge browser			
Parts of Speech	OneNote Desktop	OneNote Web	OneNote App	OneNote iOS	OneNote Mac	Word Web	PowerPoint Web	Outlook Web	Teams	Flipgrid Web, iOS, Android	Whiteboard	Forms	OneDrive + SharePoint	MakeCode	Minecraft EDU	Office Lens iOS, Android	Edge browser				
Picture Dictionary	OneNote Desktop	OneNote Web	OneNote App	OneNote iOS	OneNote Mac	Word Web	PowerPoint Web	Outlook Web	Teams	Flipgrid Web, iOS, Android	Whiteboard	Forms	OneDrive + SharePoint	MakeCode	Minecraft EDU	Office Lens iOS, Android	Edge browser				
Translation	OneNote Desktop	OneNote Web	OneNote App	OneNote iOS	OneNote Mac	Word Web	PowerPoint Web	Outlook web	Teams	Flipgrid Web, iOS, Android	Whiteboard	Forms	OneDrive + SharePoint	MakeCode	Minecraft EDU	Office Lens iOS, Android	Edge browser				
Math & Equations	OneNote Web	OneNote App	OneNote iOS	OneNote Mac	Word Web	Word Desktop	PowerPoint Desktop	Forms	Edge browser												
Dictation	OneNote Desktop	OneNote App	OneNote Web	Word Web	Word Desktop	Outlook Desktop	PowerPoint Desktop	PowerPoint Web	Windows 10												

Learning Tools Flyer for PD: <http://aka.ms/LearningToolsFlyer>

# Accessibility tools improve outcomes

Educators are better able to support academic improvement for all students with tools that enable inclusive teaching.



Microsoft  
Translator

Get real-time subtitles and translations of text, websites, pictures, and voice



Office Lens

Digitise whiteboard or blackboard notes and convert them to Microsoft Word, PowerPoint, or PDF



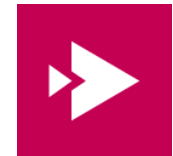
Accessibility  
Checker

Make sure your Word, PowerPoint, and Excel documents are accessible



Automatic  
alt text

Using AI, Microsoft Translator will automatically provide image descriptions



Microsoft  
Stream

Get automatic transcriptions of audio or video recordings

# Disability Support

Disability Answer Desk



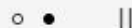


## Adaptive accessories, designed for accessibility

Explore the highly adaptable, easy-to-use accessories that let you customize your own mouse, keyboard inputs, and shortcuts.

[Explore adaptive accessories >](#)

[Get accessory support >](#)



## Accessibility tips

[Disability Answer Desk \(Non enterprise\)](#)

### Product accessibility overview

We create inclusively-designed products to empower people across the spectrum

### Microsoft Teams

Find guidance and best practices for accessible meetings, chat and collaboration across your teams.

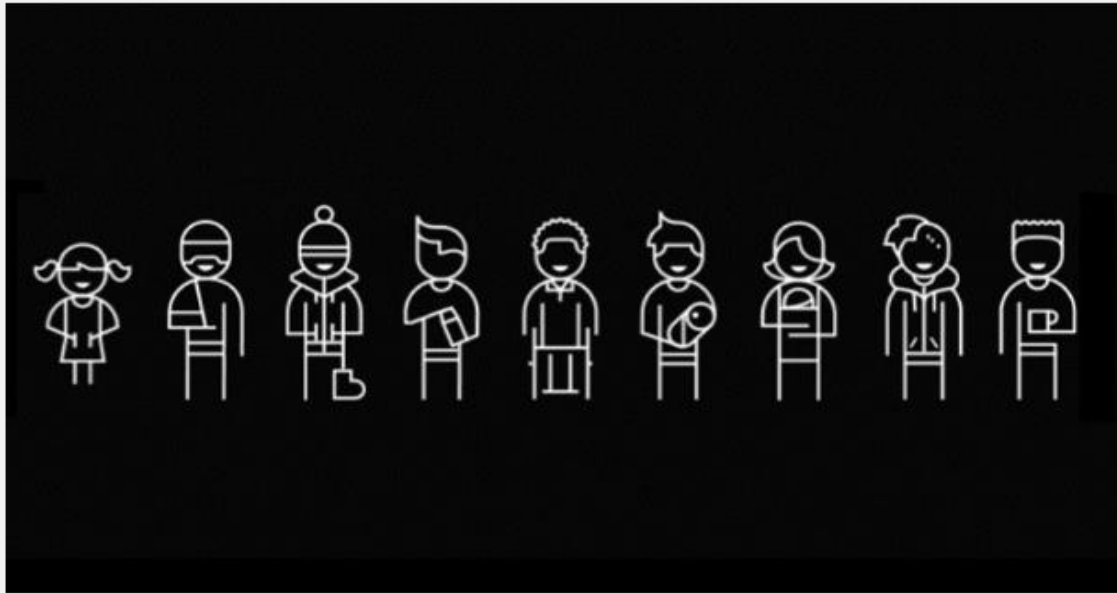
### Windows

Need help with Microsoft Windows? You've come to the right place for accessibility information.

### Microsoft 365

Find step-by-step instructions for using Microsoft 365 and Office 365 with assistive technologies.

# Accessibility support for enterprise customers



## Connect with an accessibility expert

The enterprise Disability Answer Desk is a support resource for organizations that have questions about the accessibility of Microsoft products and product conformance with accessibility standards. The support team can help resolve issues relating to assistive technology and functionality of products for users with disabilities, as well as find conformance documentation.

[EMAIL THE ENTERPRISE DISABILITY ANSWER DESK >](#)

[Disability Answer Desk \(Enterprise\)](#)

## Additional Resources

# Ask Microsoft Preview

## Accessibility

### Bing AI-powered accessibility discoverability tool

Ask Microsoft Accessibility is powered by AI, so surprises and mistakes are possible. Please share feedback so we can improve! |

[Responsible AI FAQ](#)

The Ask Microsoft Accessibility bot is a tool that helps users find information about the accessibility of Microsoft products and services. It uses only the publicly available information on microsoft.com as a reference and does not answer general accessibility questions or questions about code.

### Sample Questions

- What accessibility features are available on Xbox?
- How do I set up my adaptive accessory hub?
- How do I use Voice Access on Windows?
- How do I make text bigger in the message list in Outlook?



[Ask Microsoft Accessibility](#)

Ask me anything about Microsoft accessibility, and I will assist you. Feel free to ask follow-up questions as needed.

### Enter Question





# Accessibility help & learning

How can we help you?



Windows



Microsoft 365



Word



Excel



PowerPoint



Outlook



Microsoft  
Teams



OneNote



OneDrive



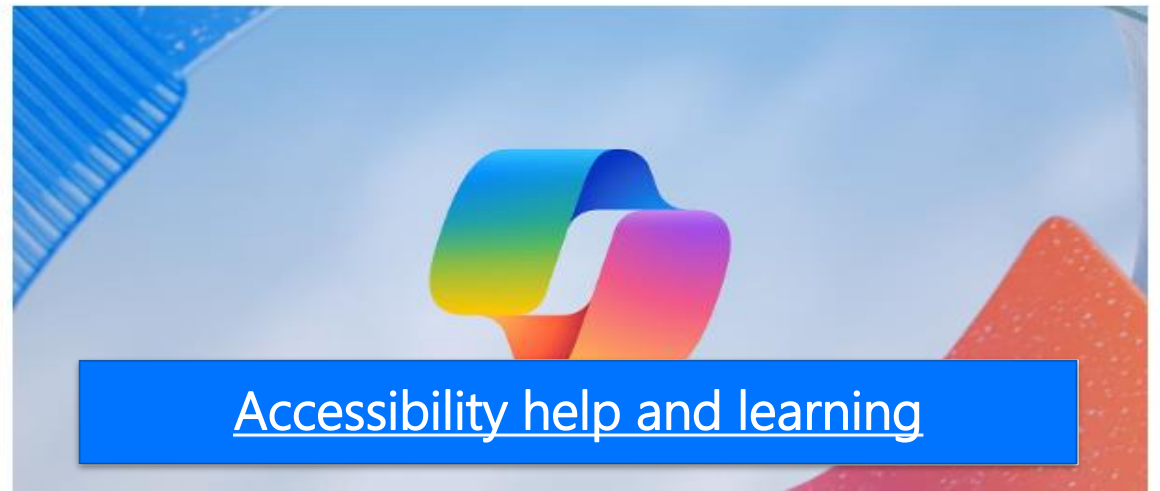
SharePoint

[SEE MORE APPS >](#)

## Copilot for Microsoft 365: your everyday AI companion

Learn about how Copilot for Microsoft 365 can be used to help you perform tasks faster.

[LEARN HOW TO USE COPILOT FOR MICROSOFT 365 >](#)



[Accessibility help and learning](#)



# Microsoft 365 Copilot

Built on Microsoft's **comprehensive** approach



Security



Compliance



Privacy



Responsible AI





# Efficiencies with Copilot

Copilot is the new way to search...and more

Summarize a  
long PDF



Turn a 20-page, complex PDFs into 5 bullets using Copilot in Edge

Draft emails and  
content



Use Copilot as your assistant on call to draft emails, materials, and more

Generate  
images



Leave behind stock images and text-only reports in favor of custom-generated images

Learn new  
skills



Ask questions tailored to your needs and interests to get consolidated key points from the internet for you

Get answers for  
specific and complex  
questions



Elegantly handle questions that require multiple data points or a degree of analysis

# Access Microsoft Copilot in five places

Copilot.Microsoft.com



Microsoft Edge sidebar



Copilot Mobile



Windows



Bing.com/chat



# Understanding the autonomy

Chat/Compose toggle

Chat Compose

Protected

Work Web

Work or Web toggle  
(Signed in will show both).

Conversation Styles

Copilot

Your everyday AI companion

with Bing

Choose a conversation style

More Creative

More Balanced

More Precise

Here are some things Copilot can help you do.

Add this tab to my favorites

What percentage of taxes should I withhold from my paycheck?

Copilot is powered by AI, so surprises and mistakes are possible. [Terms](#) | [Privacy](#) | [Ads](#)

New conversation toggle

Your personal and company data are protected in this chat



Ask me anything...



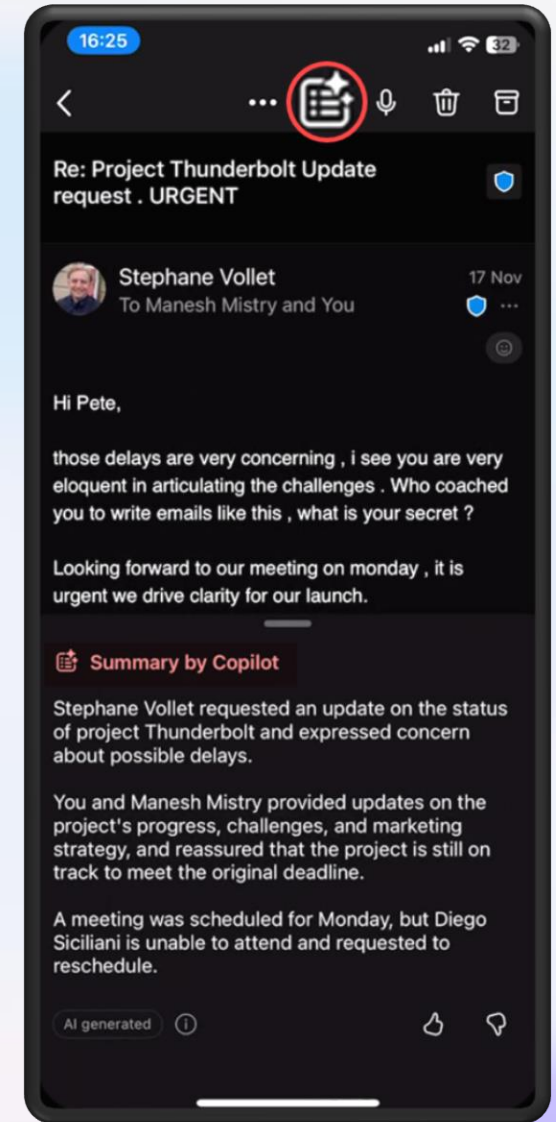
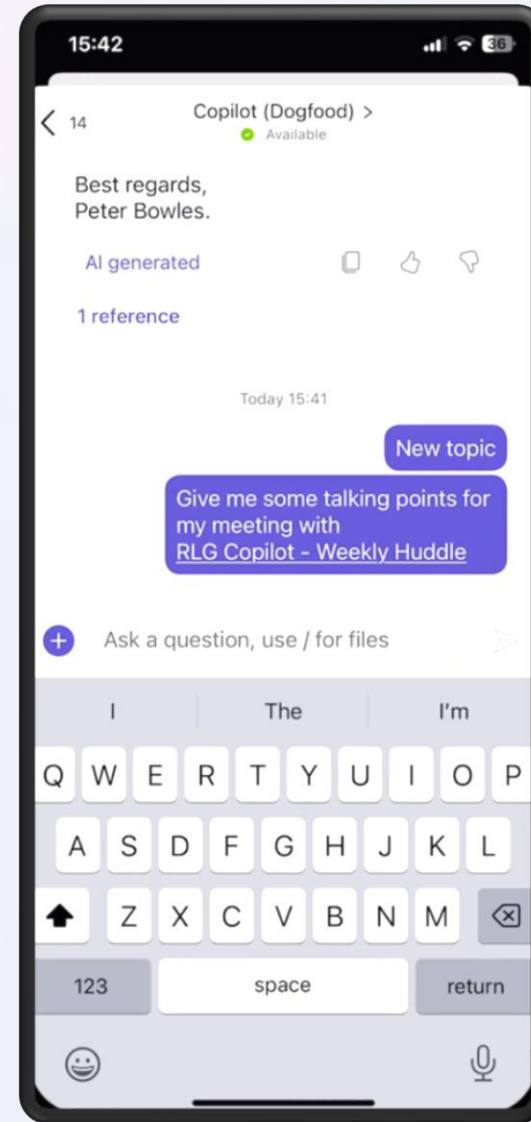
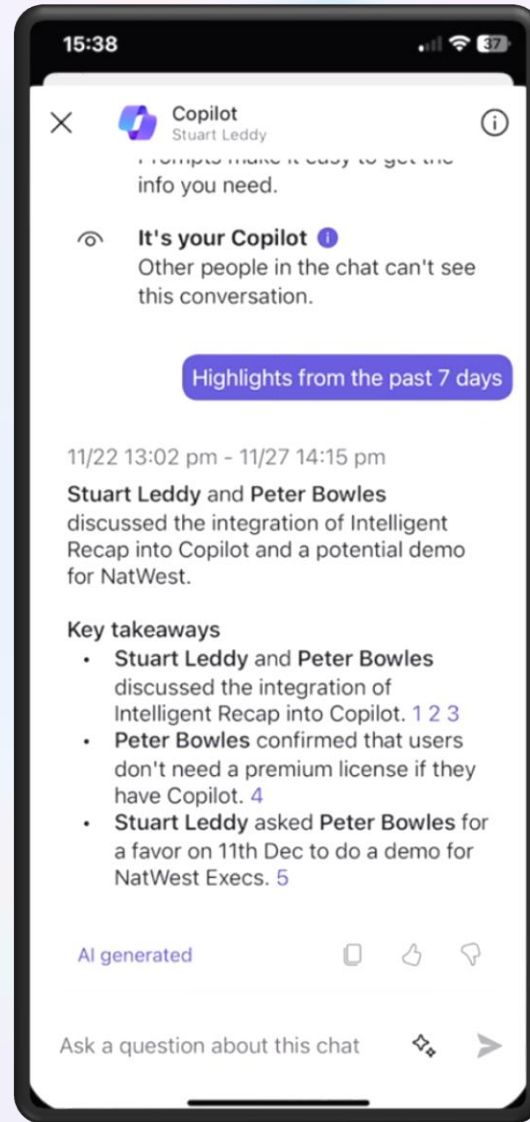
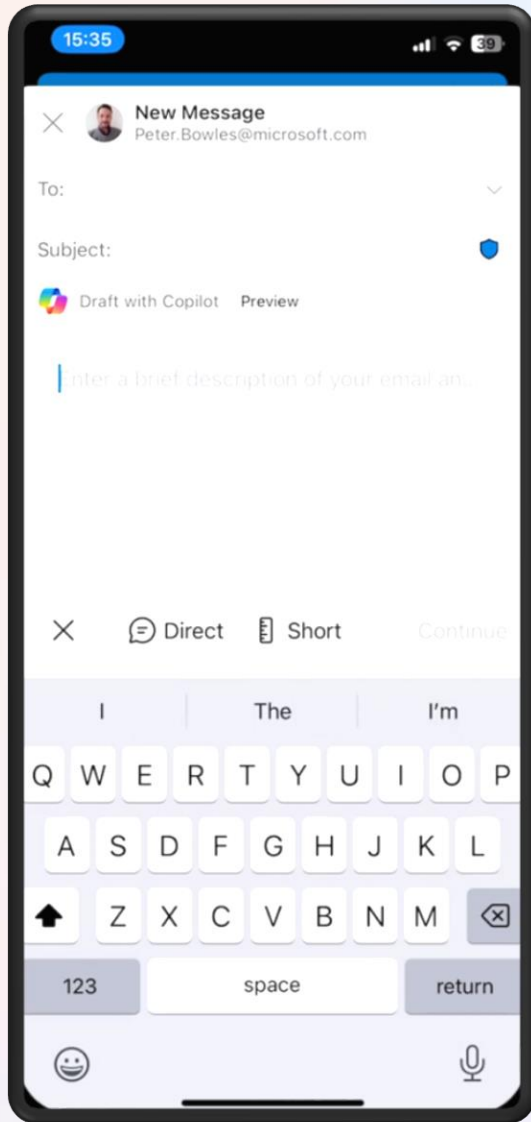
0/4000



Conversation box;  
Microphone; Image upload  
and add a screenshot.



# Go Mobile







# Windows accessibility


Inclusively designed for  
everyone

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A more accessible Windows experience has the power to help tackle the 'disability divide'—to contribute to more education and employment opportunities for people with disabilities across the world. 

— Jeff Petty, Windows Accessibility Leader at Microsoft<sup>1</sup>

## Microsoft's **inclusive design principles**

- 1. Recognize exclusion**  
Reflect how people really are
- 2. Solve for one, extend to many**  
Design to benefit people universally
- 3. Learn from diversity**  
Put people in the center from the start

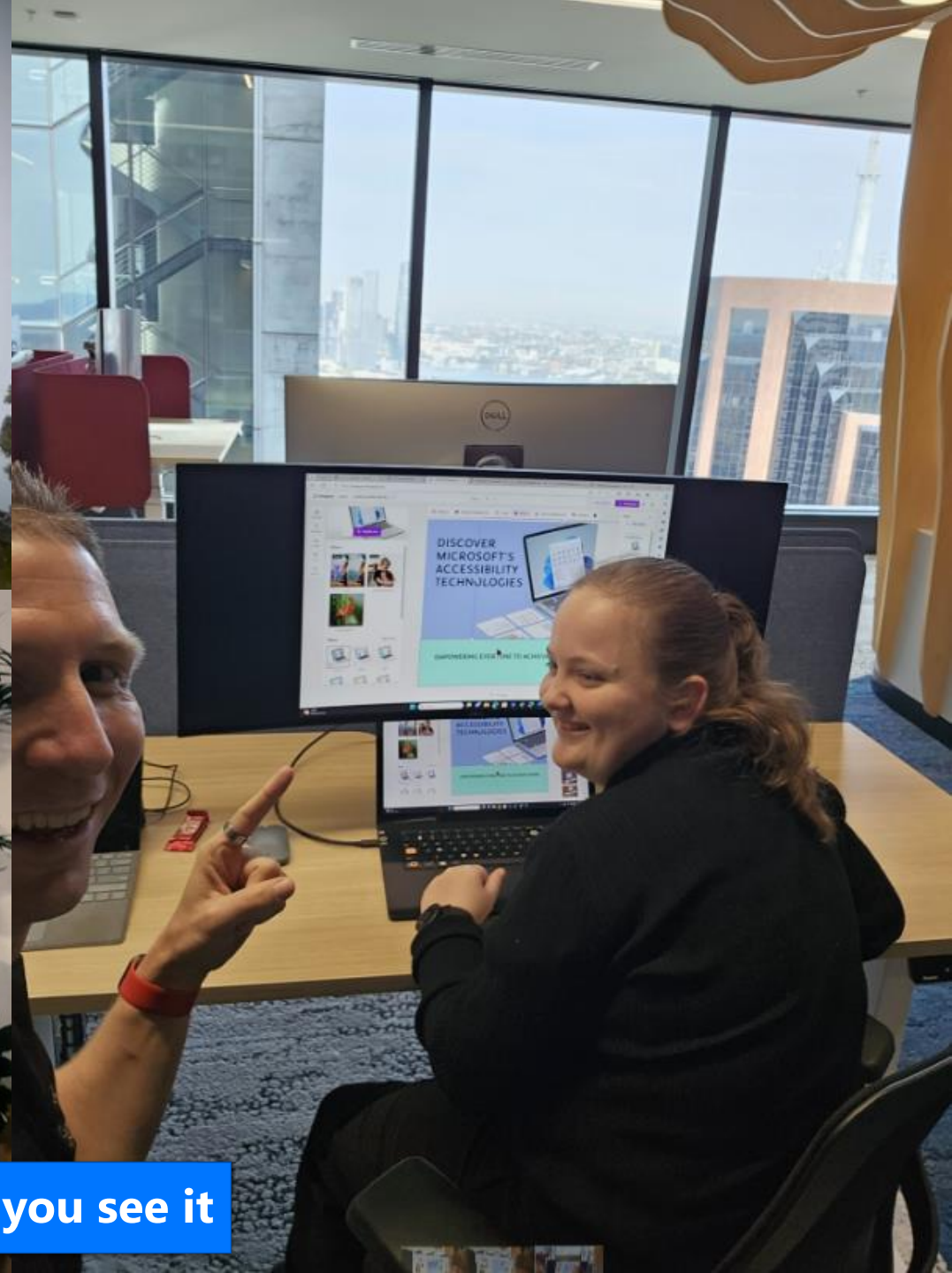
<sup>1</sup>Microsoft. ["What's coming in Windows 11 Accessibility."](#) Jeff Petty. July 1, 2021. <sup>2</sup>[Microsoft Inclusive Design website.](#)





# THE WAY YOU SEE IT

A SHORT FILM BY CHRISTINE DOUGLAS



**Christine Douglas – The way you see it**

[See the video here](#)

**John**

Designer, Input and Accessibility





# Redesigned for productivity, creativity, and ease—for everyone

People with disabilities were engaged in designing Windows 11 from the start. The resulting operating system aims to **provide a delightful experience for everyone**—with disabilities and without.

## Your device, your way

Navigate your computer with keyboard shortcuts, voice, or eye control

## Tailor your view

Customize your display to see every detail—or skip the screen entirely

## Catch every word

Experience full-spectrum sounds or use captions instead

## Get in the zone

Cut down on distractions and focus on the task at hand

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### At its core, Windows 11 provides

- Best productivity and collaboration experiences
- Industry-leading security from chip to cloud
- Simplicity and lowest total cost of ownership



# Make your PC easier to use - Windows 10 Ease of Access

## Windows Settings

Find a setting 



### System

Display, sound, notifications, power



### Devices

Bluetooth, printers, mouse



### Phone

Link your Android, iPhone



### Network & Internet

Wi-Fi, airplane mode, VPN



### Personalization

Background, lock screen, colors



### Apps

Uninstall, defaults, optional features



### Accounts

Your accounts, email, sync, work, other people



### Time & Language

Speech, region, date



### Gaming

Game bar, captures, broadcasting, Game Mode



### Ease of Access

Narrator, magnifier, high contrast



### Cortana

Cortana language, permissions, notifications



### Privacy

Location, camera



### Update & Security

Windows Update, recovery, backup

# Windows 11 builds on the strengths of Windows 10



## Mobility



## Vision



## Hearing



## Neurodiversity

### Maintain current Windows 10 capabilities

- Touch gestures for Windows
  - On-Screen Keyboard
  - Speech recognition commands
  - Voice recognition
  - Windows Hello
  - Improve usability of mouse, keyboard, and other input devices
  - Touch keyboard
  - Eye control
- Support for third-party screen readers
  - Adjust screen display size and color
  - Make the mouse pointer more visible
  - Color filters
  - Magnifier
  - Keyboard shortcuts in Windows and across apps
- Hear all sounds in one channel
  - Display audio alerts visually
  - Extend notifications on screen
- Enable text suggestions in Windows
  - Turn off animations, background images, and more
  - Make notifications stick around longer
  - Modify notification settings with Focus assist
  - Snap, order, and create multiple desktops

### Improve on Windows 10 capabilities

- Voice Typing
- Narrator
  - Use a new, more attractive set of contrast themes
- Live captions
  - Change Closed Caption themes
  - Use text or other alternative to sound
- Simplify the Start menu
  - Read with fewer distractions
  - Choose which apps display notifications
  - Task bar personalization

# Reimagined Accessibility Settings

- ★ Easily identify the newly renamed Accessibility Settings (formerly “Ease of Access”)
- ★ Personalize your Windows 11 experience for vision, hearing, and interaction method from just one menu

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The redesigned settings illustrate our overall approach to accessibility in Windows 11. It’s easier to find and control, incorporates feedback from users of various backgrounds and abilities, and, ultimately, celebrates the fullness of human ability.





# Live Demo



# Learn more about Windows 11 accessibility

## Websites

Windows 11 accessibility homepage  
[microsoft.com/accessibility/windows](https://microsoft.com/accessibility/windows)

Accessibility support for Windows  
[aka.ms/Windows/AccessibilitySupport](https://aka.ms/Windows/AccessibilitySupport)

Accessibility information for IT Professionals  
[aka.ms/AccessibilityAdminGuide-Windows](https://aka.ms/AccessibilityAdminGuide-Windows)

## Blogs

New accessibility features coming to Windows 11  
[aka.ms/Windows/A11yBlog05-2022](https://aka.ms/Windows/A11yBlog05-2022)

Making Windows 11 the most inclusively designed version of Windows yet  
[aka.ms/Windows/A11yBlog10-2021](https://aka.ms/Windows/A11yBlog10-2021)

## Video

Designing an inclusive Windows 11 for a hybrid world  
[aka.ms/Windows/Accessibility-Ignite2021](https://aka.ms/Windows/Accessibility-Ignite2021) or watch on next slide



# Creating Accessible Content

Accessibility in Office





# AI has incredible potential to improve the lives of people with disabilities

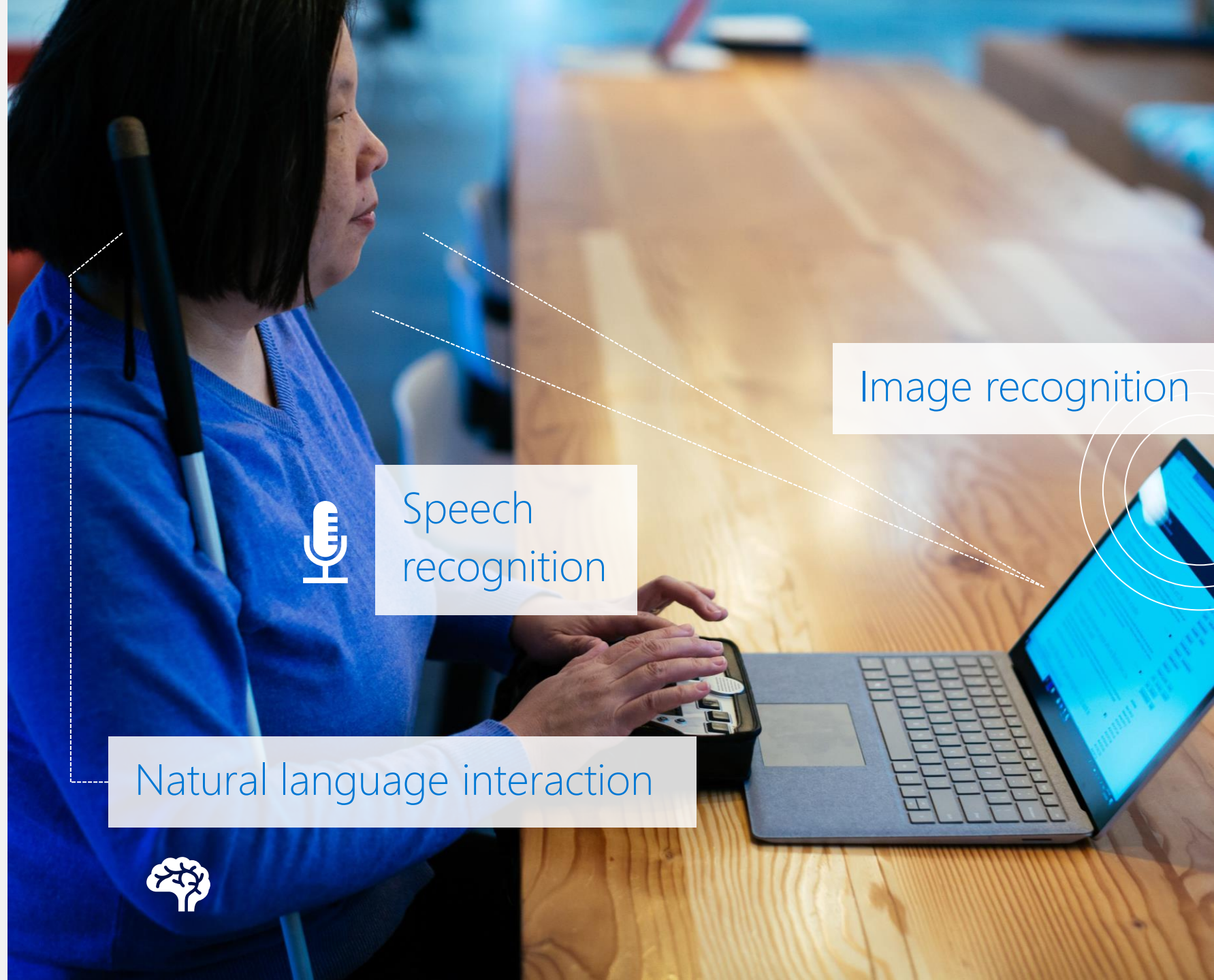


Image recognition



Speech recognition

Natural language interaction





# Quotes from Aditi, data scientist at Microsoft who uses a screen reader

Intro

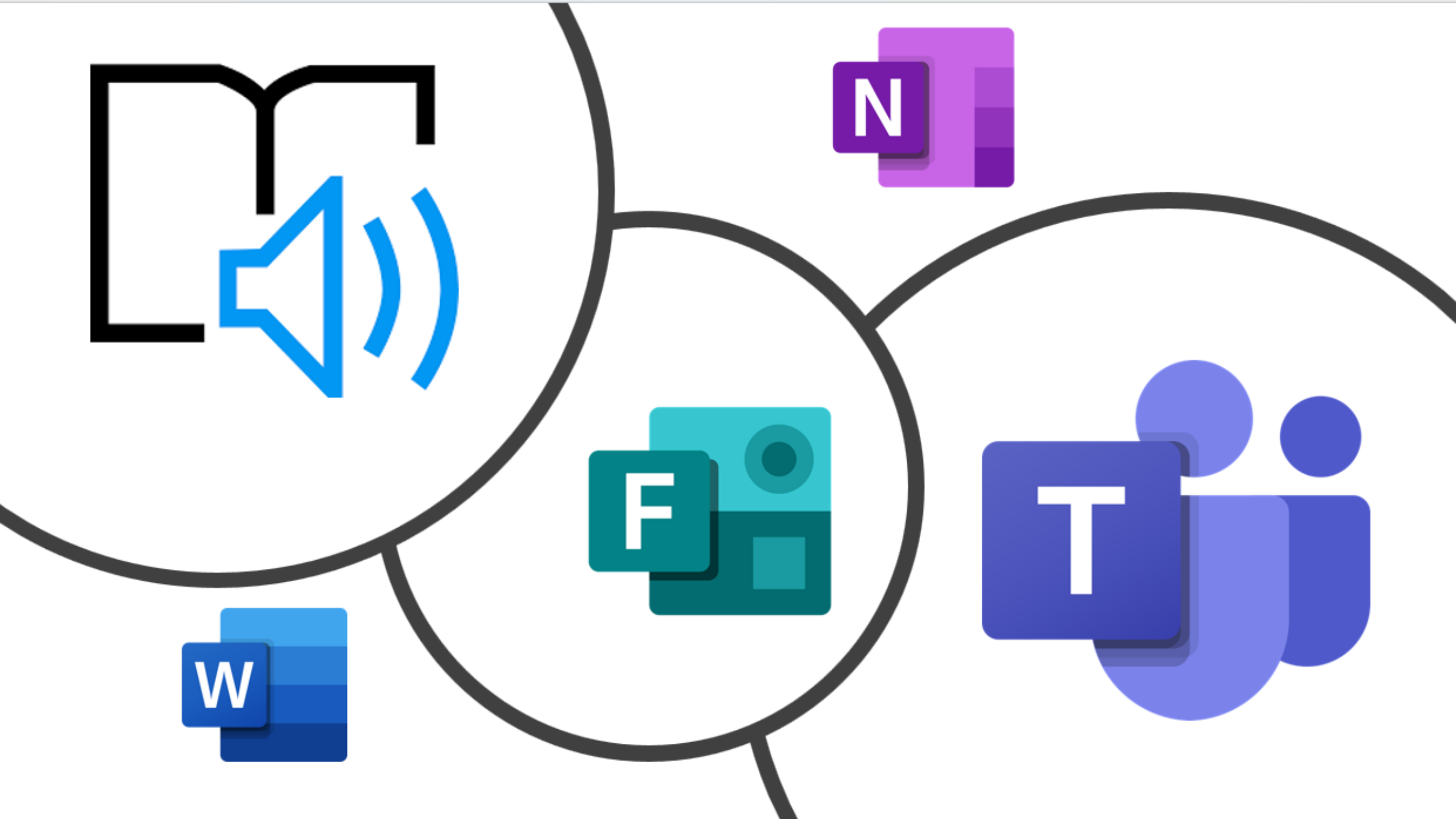


Jupyter & Azure ML notebooks



Trying new things





# Office Lens





# Dictate



# Translator





# Accessibility Checker





+ Many more



# Live Demo





even enthusiasm over 2 lessons (1 hr 30 mins of actual writing time).

Tommy McAcid pants  
~~the~~

1956

At nuclear <sup>power</sup> ~~acid~~ plant  
fell into waste +  
transformed.

He can eat everything apart from clean  
stuff - what he eats  
helps him grow. Clean  
stuff shrinks him

(scientist)

This is a story planning sheet for a 9 year old boy who is dyslexic

Beginning: <sup>when</sup>  
hurrow  
who  
W h a  
where

End:  
Clean cup of water  
thrown on him +  
he dissolves - shrinl  
to normal size



## Crazy Creatures

---

The same child then wrote this story based on the plan, completely independently, on OneNote.

One day around 1956 a scientist was working around the radioactive waste at the nuclear plant where he worked. Then the alarm went off and he fell into the radioactive waste. Suddenly he turned into a body of acid! Everyone ran and screamed, "Monster run!" Suddenly the acid monster rose up and ate the whole nuclear plant. He grew to the height of a skyscraper suddenly the fire department accidentally sprayed the monster with clean water. Then he shrank and the government got every fire truck in America to spray him until he was very small. They locked him away

# 7th Grader Before and After with Dictate

Tryg Berger  
Mod 1

Big Macke  
Machine set his time  
boom all of a sudden then  
door flew open and he  
Mrs Beck his time  
Machine broke  
he was stuck  
in the 1950's unless he  
could do something  
Big Macke went to the  
Malt Shop  
and called Doc  
to fix  
his time machine  
Doc  
a  
a phone  
in the time machine  
could go home  
the end

## Tryg Berger Mod 1.

Big Macky D the alien time traveler set his time machine to 1878 just before the Minneapolis Minnesota Washburn, A mill flour explosion. Crack, boom, bang, he arrived and all of a sudden, then is door flew open. He hopped out into a 1950's malt shop. Chubby checker was playing on the juke box in the corner. He was as angry as Mrs. Beck. He realized that his time machine had broken and he was stuck in the 1950's unless he could do something to fix it.

Big Macky D went to the nearest phone booth and called Doc Brown To help fix The Time Machine. He ate a burger and malt while he waited for Doc to arrive from the year 2018.

# Achieving more with accessibility – Inclusion in Action series



[Andrew](#), a young boy who read for the first time with Learning Tools.



[Justin](#), a young man who uses Office 365 to communicate with the world.



[Veronica](#), a student with low vision who created a perfect Sway.



[Cameron](#), a university lecturer who believes it is an exciting time to be a blind person with Seeing AI.



[Jack](#), a teacher who shows students what is possible with Office 365 and Narrator.



[Steve](#), who navigated a medical crisis with OneNote to access printed documents.



# Accessibility Learning Webinar Series

- Interactive online event where anyone can learn about the latest Microsoft accessibility features, productivity tips for school and work, or technology that enables a more independent and full life.
- Sign up for webinars: [Accessibility Learning Webinars](#)
- [Watch completed webinars](#) on YouTube



# Do-it-yourself accessibility

- A series of videos from Microsoft Customer Support covering eye control, text size, screen reader use, assistive technology, and more.
- [Accessibility videos](#) playlist

*Chitra with the Microsoft Accessibility team.*



2:09

47

# Accessibility At-A-Glance series

- Accessibility at a Glance is a series of short videos built to help you learn how to create an inclusive digital experience for people with disabilities.
- Watch [Accessibility At-A-Glance](#) videos

*An animated Guy Barker is among Microsoft employees featured in the Accessibility At-A-Glance series.*





# PDF Accessibility Training

- Learn how to create accessible PDF documents in this series.
- Watch the [PDF Accessibility Training](#) videos



## BRAND LOYALTY

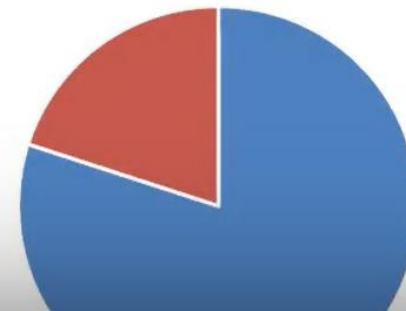
A customer research survey, co-sponsored by Contoso and Northwind and conducted at the beginning of 2012, asked consumers why they chose to buy Northwind-brand electronics over other name brands.

The phrases that emerged most often were “best value” (26 percent), “trusted” (23 percent), “good quality” (21 percent), and “innovative” (19 percent). All of these phrases map back to both companies’ core values, proving that Northwind’s and Contoso’s shared approach to business is paying off.

### A trusted brand

To investigate longer-term trends, we again turned to customer research to determine why consumers were turning to the Northwind brand in droves. Not surprisingly, the worldwide recession that began in 2008 has been a major factor. With less discretionary income, consumers are turning to trusted brands that are perceived to be good quality yet still a good value for the money.

Northwind/Contoso Customer Loyalty



# Office Accessibility

- Find resources for people with disabilities and how to make content accessible for everyone at the [Office Accessibility Center](#)
- Office 365 provides best-in-class apps and powerful cloud services with accessibility built-in. Learn about [accessibility capabilities in Office 365](#)
- Get [accessible templates](#) for Office
- [Office accessibility video training](#)





# Windows 10

Get [Windows 10](#) accessibility help

- Learn about [Ease of Access](#) features
- Complete guide to [Narrator](#)
- [Color filters](#)
- Resources for [low vision](#)
- [Closed caption](#) settings





# AI for Accessibility

AI for Accessibility is a \$25 million, 5-year program to accelerate the development of accessible and intelligent AI solutions to benefit persons around the world with disabilities.

- [AI for Accessibility](#) website
- Check out how our grantees are using AI powered technology to make the world more inclusive. [Accessibility Projects](#)



# Feature Availability

	OneNote				Word				PPT	Outlook		Other					
	Online	Desktop	Windows 10	iPad	Online	Office 365	Mac	iPad	Web	Online	Office 365	Teams	Edge	Forms	Flipgrid	Minecraft	Office Lens
Read Aloud	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Spacing and Font Size	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓
Syllables	✓	✓	✓	✓	✓	✓	✓		✓	✓		✓	✓	✓	✓	✓	✓
Parts of Speech	✓	✓	✓	✓	✓				✓	✓		✓	✓	✓	✓	✓	✓
Dictate	✓	✓	✓		✓	✓			✓		✓						
Line Focus	✓	✓	✓	✓	✓				✓	✓		✓	✓	✓	✓	✓	✓
Picture Dictionary	✓	✓	✓	✓	✓				✓	✓		✓	✓	✓	✓	✓	✓
Translation	✓		✓	✓	✓				✓	✓		✓	✓	✓	✓	✓	✓
Math Equation support	✓	✓	✓		✓	✓											

Learning Tools Flyer –  
[aka.ms/learningtoolsflyer](https://aka.ms/learningtoolsflyer)











## Special Education and Accessibility Resources for Remote Learning

31 videos • 16 views • Updated 6 days ago



SUBSCRIBED



-  **You Can Improve Reading Skills With Microsoft Learning Tools**  
Microsoft Education
-  **What is the Immersive Reader?**  
Microsoft Education
-  **You Can Use Immersive Reader In Minecraft: Education Edition**  
Microsoft Education
-  **You Can Use Immersive Reader In Microsoft Teams**  
Microsoft Education
-  **You Can Use Office Lens With Immersive Reader**  
Microsoft Education
-  **You Can Use Immersive Reader In ALL These Places!**  
Microsoft Education
-  **District Spotlight | Accessibility at Scale with Microsoft Learning Tools**  
Microsoft Education
-  **How to have a multilingual parent-teacher conference using Microsoft Translator**  
Mike Tholfsen

Learning Tools – [Accessibility Playlist](#)



# Introducing: Be My AI

Be My Eyes' Virtual Volunteer, powered by GPT-4, gets a new name and will soon be open to beta testing by hundreds of iOS users worldwide



Michele Paris

Marketing and Communications Manager

## Become a Be My AI Beta Tester

We're expanding our  
beta test for iOS users



# Thank you!

Education Success Manager



[Andrew.Balzer@microsoft.com](mailto:Andrew.Balzer@microsoft.com)



[Twitter.com/AlphaBalzer](https://twitter.com/AlphaBalzer)



[Linkedin.com/in/andrew-balzer](https://www.linkedin.com/in/andrew-balzer)

