Enhancing Digital Accessibility with AI

Dawnna Lewis

A11y CoP

February 2025

NCDIT NORTH CAROLINA DEPARTMENT OF INFORMATION TECHNOLOGY

My Experience with Co-Pilot

AI & Digital A11y

- Artificial Intelligence (AI) is poised to significantly improve digital accessibility in various ways. Here are some key areas where AI can make a difference.
  - Automated Content Creation
  - Personalized User Experiences
  - Real-time Translation and Interpretation
  - Enhanced Navigation Tools
  - Content Simplification
  - Predictive Analytics for Accessibility Needs

Automated Content Creation

- **Alt Text Generation**: AI can automatically generate descriptive alt text for images, making visual content accessible to users with visual impairments.
- **Transcription Services**: AI-driven tools can transcribe audio and video content into text, providing accessibility for those different hearing abilities.

Personalized User Experiences

- **Adaptive Interfaces**: AI can analyze user behavior and preferences to customize interfaces, making them easier to navigate for individuals with disabilities.

- **Voice Recognition**: AI-powered voice recognition systems can allow users to interact with devices and applications through normal speech patterns , benefiting those with mobility impairments.

Real-time Translation and Interpretation

- **Language Translation**: AI can provide real-time translation of text and speech, making content accessible to non-native speakers and individuals with language-related disabilities.
- **Sign Language Recognition**: AI can be trained to recognize and interpret sign language, facilitating communication for the deaf and hard-of-hearing communities.

Enhanced Navigation Tools

- **Smart Assistants**: AI-driven virtual assistants can help users navigate websites and applications, providing voice-guided instructions and support.

- **Contextual Help**: AI can offer contextual assistance based on user actions, helping individuals with cognitive disabilities understand and use digital content more effectively.

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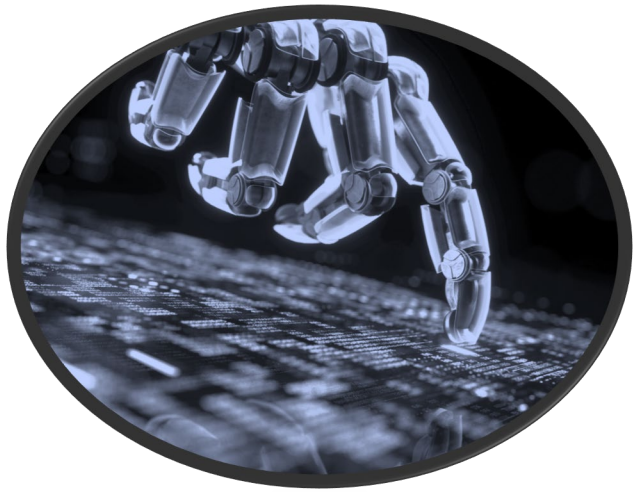
Content Simplification

- **Text Simplification**: AI can simplify complex texts, making information more accessible to individuals with learning disabilities or cognitive challenges.
- **Summarization Tools**: AI can summarize lengthy articles or documents, allowing users to grasp essential information quickly.

Predictive Analytics for Accessibility Needs

- **User Behavior Analysis**: AI can analyze user interactions to identify accessibility barriers and suggest improvements, ensuring a more inclusive digital environment.
- **Feedback Mechanisms**: AI can facilitate feedback collection from users with disabilities, helping organizations understand and address their specific needs.



AI Built in Help

Dyslexia

Helps with reading and writing tasks by providing text-to-speech and spell-check features.

Attention Deficit Hyperactivity Disorder (ADHD)

Aids in task management and organization, offering reminders and structured workflows.

Autism Spectrum Disorder (ASD)

Supports communication and social interaction through prompts and suggestions for responses.

Traumatic Brain Injury (TBI)

Assists with memory aids and cognitive rehabilitation exercises.

Aphasia

Provides alternative communication methods and vocabulary suggestions to facilitate conversation.

AI Built in Help

Intellectual Disabilities

Offers simplified language and step-by-step instructions for various tasks.

Executive Functioning Disorders

Helps with planning, prioritizing, and executing tasks through visual aids and checklists.

Memory Impairments

Utilizes reminders and notes to help users retain and recall information.

Learning Disabilities

Provides personalized learning experiences and resources tailored to individual needs.

Processing Disorders

Offers tools to break down complex information into manageable parts for easier understanding.

Technology you may not know already exists

- Image recognition to fix alt text issues?
- Facial recognition, as the long-awaited CAPTCHA killer?
- Lip-reading recognition to improve video captions?
- Automated text summarization to help with learning disabilities?
- Real-time translation?

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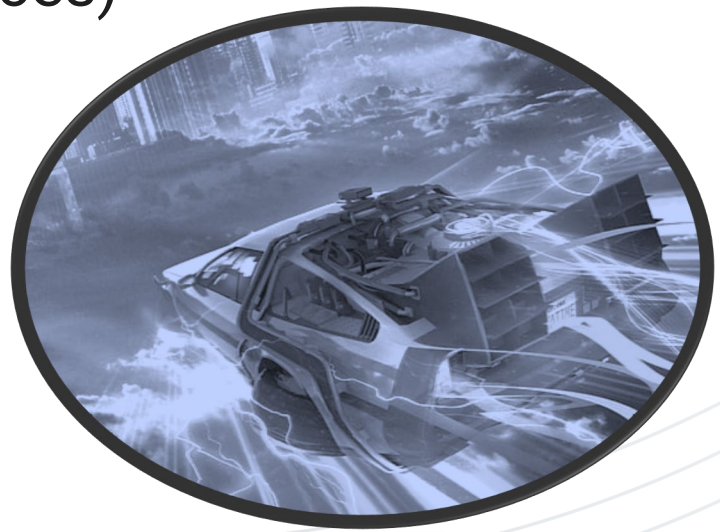
Imagine the Future

- Personalized User Interfaces (I prefer the menu on the left)
- Automated Content Adaptation (Instantly change big words to small)
- Intelligent Screen Readers(Only describe images with people)
- Augmented Reality (AR) for Navigation (personal spaces)
- Emotion Recognition for Support
- Instant A11y design tools (instant suggestions)



AI-powered assistant enabling an accessible workforce

Microsoft 365 Copilot

Inclusively embedded within Microsoft 365 Apps

Dyslexia

- Summarize a document or webpage
- Writing an email reply
- Inspire me in Word
- Rewrite the following text in plain language

Neurodiversity

- Change the tone of my email
- Summarize past projects, stakeholders, and resources
- Teams meeting chat interrogation

Mobility

- Teams meeting recap
- Create first draft of a document or presentation
- Search for conversations- email, Teams chat, documents
- Access companywide information

Vision

- Summarize an inaccessible document
- Summarize a whiteboard
- Create a first draft of a document or presentation

This is my Copilot. How can yours help you?

Multi-Modal Capabilities: A New Frontier

At its core, Gemini 2.0 Flash allows users to provide input not only through text but also via their camera and microphone. This means that, for the first time, visually impaired Android users can leverage real-time video feeds for assistance, rather than being limited to static images. Imagine being able to point your camera at a street sign, a menu, or a package label and have the AI provide instant, actionable feedback. This dynamic interaction takes accessibility to an entirely new level.

Real-World Applications

The implications for visually impaired users are vast. By enabling real-time video assistance, tasks like identifying objects, reading text, and navigating unfamiliar environments become significantly easier. Apps such as Be My Eyes and Seeing AI, which connect blind users with sighted volunteers or provide object recognition, could potentially benefit from future enhancements in this field as OpenAI gets their act together. Additionally, Google's own Lookout app could directly utilize Gemini's multi-modal capabilities, given that both are part of Google's ecosystem, creating a streamlined integration for accessibility.

Conclusion

- AI can greatly improve digital accessibility, making online spaces more inclusive and user-friendly.
- By using AI, individuals can make sure their digital content is personally accessible to them, no matter their abilities.
- As AI develops, its impact on accessibility will likely grow, creating a fairer digital world and changing the way we interact in it.

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