How Technology is Making the UK & the World More Accessible

The Future is Accessible

Technological advances happen every day—but technology has also had a huge impact on the lives of people with disabilities. Let's take a look at how assistive technology is making the UK—and the world—more accessible.

What is assistive technology? According to the Assistive Technology Industry Association[i], "Assistive technology (AT) is any item, piece of equipment, software program, or product system that is used to increase, maintain, or improve the functional capabilities of persons with disabilities." In short, assistive technology is all about accessibility. One common piece of assistive technology is a screen reader, which allows the blind to navigate a computer (think VoiceOver[ii]). Check out how Molly Burke[iii], a blind YouTuber whose channel has over 900,000 subscribers, uses assistive technology devices[iv].

Other assistive technology devices are closed captioning devices (think CaptiView[v] or the less common closed captioning glasses[vi]) that allow the d/Deaf to enjoy movies. Ai-Media contributor and YouTuber Rikki Poynter[vii] is a huge advocate for better and more widespread captioning. There is much work to be done, as this technology is not without its shortcomings—just ask Nyle DiMarco[viii] or Ace Ratcliff[ix].)

Innovative Solutions, Real Impact

Just over the past decade, technology for disabled people has advanced considerably.

Tilly Lockey, a girl who lost her hands as a baby, now uses bionic hands[x]. Designed by Open Bionics, the hands even allow her to pick up a tiny marble! Assistive technology not only has day-to-day practical effects, but can also be a huge confidence booster!

While voice recognition and speech to text software can help people who find they can't use their hands to write, what if you could only use your eyes? Remember the movie *The Diving Bell and the Butterfly* (2007)? It was based on a book written by Jean-Dominique Bauby, the journalist with so-called "Locked-In Syndrome" who could only blink. He crafted the story with the help of a nurse, who spelled out every letter of the French alphabet aloud and then, when Bauby blinked, wrote down his chosen letter. Today, he'd likely use Eyegaze Edge[xi]. This groundbreaking tablet uses a video camera and Pupil Centre/Corneal Reflection technology to record exactly where someone is looking. Thanks to this device, people have written at least twelve books—using only their eyes.

Other groundbreaking products include HeadMouse Nano[xii] and the Myo armband[xiii] (which researchers have used to better control prosthetics).

Captioning for Literature and Life

You're probably familiar with closed captioning on television, or maybe CaptiView in cinemas, but you may not be aware that live captioning is available at certain theatre performances. In the UK, STAGENEXT[xiv] is not only providing live captioning to theatres, but also teaching other organizations how to caption their material, ensuring that d/Deaf and hard of hearing audience members can enjoy theatre. To prepare, a trained captionist downloads the script into a software program, sees the play live, and watches a DVD of the play to make sure that delays are minimized. The process can take up to 50 hours, but this inclusive technology allows more people to enjoy the show!

From Pokémon Go to Animojis on the iPhone X, Augmented Reality (AR) is quickly becoming part of our lives. Now, Britain's National Theatre is employing the technology[xv] for a higher purpose: fully customizable, minimally obtrusive captioning glasses that allow d/Deaf and hard of hearing theatre patrons full access to a live show—anytime they want. While the National Theatre does offer captioned shows, they are infrequent and require patrons to look at a screen off to the side, diverting one's attention from the action. AR is changing all this.

If you're a d/Deaf or hard of hearing student, at one time or another you've likely found communication access in the classroom to be a challenge. If you're a businessperson, perhaps you've found yourself lost during an important meeting. Maybe you've used CART[xvi] in the past, but now, with Ai-Live, "trained captioners create real-time captions by either typing into a stenotype machine with a phonetic keyboard (as used by court reporters) or re-speaking what they hear into voice recognition software that they have specifically trained to their voice. These are then streamed over the internet to your smartphone, laptop or tablet." This process easily fits into your lifestyle, letting you seamlessly participate in a meeting, lecture, or event. Life is happening now. Don't miss a word.

How Tech Firms are Increasing Accessibility

Microsoft recently introduced the Adaptive Controller,[xvii] allowing gamers with muscular dystrophy and other conditions the ability to play video games.

Airbnb is making it cheaper to find accommodations around the world, and now they've added new search features[xviii]—like whether there's a roll in shower or whether each room has step-free acess—that allow you to make sure that a home fits your needs.

Similarly, Google Maps has incorporated a search feature for wheelchair accessible routes[xix], making it easier to get from Point A to Point B as a wheelchair user.

Accessibility-focused tech firms are also springing up. ActiView, a captioning and audio description app, is making movies more accessible. San Francisco-based tech company Aira is pioneering a solution that allows blind people to travel independently with the assistance of a trained agent who verbally guides them. Watch MasterChef Season 3 winner Christine Ha, who is blind, use Aira[xx] to navigate the streets of New York City.

How Organizations Can Join the Accessibility Revolution

Organizations can use available tools to make places more accessible. The first step is to recognize people with disabilities and their unique contributions, and then make sure that they can access all the organization has to offer. From always putting the captions on during video presentations to providing large print written notes to accompany lectures to adjusting the lighting and removing obstacles from pathways, simple changes can ensure that people with disabilities feel included.

Progress Ahead

At first glance, this technology might seem like something out of a science fiction movie, but this inclusive technology, once implemented, is simple to use and is changing the game for people with disabilities, bringing content to more audiences than ever, and making a more inclusive world for all.

While there is still a long way to go to make the world truly accessible for all, technology has revolutionized what it means to have a disability. The wheels are in motion, and they show no signs of slowing down.

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[i] https://www.atia.org/at-resources/what-is-at/

[ii] https://www.apple.com/accessibility/mac/vision/

[iii] https://www.mollyburkeofficial.com/

[iv] https://www.youtube.com/watch?v=TiP7aantnvE

[v] https://www.dolby.com/us/en/professional/cinema/products/captiview.html

[vi] https://www.npr.org/sections/alltechconsidered/2013/05/12/183218751/new-closed-captioning-glasses-help-deaf-go-out-to-the-movies

[vii] https://www.youtube.com/channel/UCS7wVohIwd66b95xyuw7DFQ

[viii] https://www.teenvogue.com/story/nyle-dimarco-opens-up-about-leaving-black-panther-because-hes-deaf

[ix] https://www.facebook.com/UpworthyPresents/videos/363711800818606/

[x] http://www.bbc.co.uk/news/av/uk-england-tyne-43891049/meningitis-survivor-tilly-lockey-gets-bionic-hands

[xi] http://www.eyegaze.com/tag/eyegaze-edge/

[xii] http://www.orin.com/access/headmouse/

[xiii] https://www.engadget.com/2016/01/18/myo-wearable-controls-prosthetic-arm/

[xiv] https://www.youtube.com/watch?v=ZIfNzSt5rSw

[xv] https://www.techradar.com/news/the-national-theatre-is-using-augmented-reality-to-enhance-its-shows

[xvi] https://www.nad.org/resources/technology/captioning-for-access/communication-access-realtime-translation/

[xvii] http://www.bbc.com/news/av/newsbeat-43468917/how-sea-of-thieves-is-trying-to-make-gamers-play-nice

[xviii] https://press.atairbnb.com/airbnb-highlights-new-accessibility-filters-and-features-for-guests-with-disabilities-worldwide/

[xix] https://www.blog.google/products/maps/introducing-wheelchair-accessible-routes-transit-navigation/

[xx] https://www.youtube.com/watch?v=vLqDnVZnMY4