

Technology and Disability Policy Highlights

July 2017



Overview

July 26, 2017, marked the 27th anniversary of the signing of the Americans with Disabilities Act (ADA) into law. The ADA codified civil rights protections for people with disabilities, prohibiting discrimination that hinders access to programs and services within and outside of the government. In recognition of the 27th anniversary of the ADA, the Federal Communications Commission (FCC) and the Department of Justice (DOJ) released information on how they are guiding policy and enforcing laws to advance a more inclusive society for people who experience a disability. The FCC’s Acting Chief of the Consumer and Governmental Affairs Bureau, Patrick Webre, published a blog post, [***Celebrating the 27th Anniversary of the Americans with Disabilities Act***](https://www.fcc.gov/news-events/blog/2017/07/26/celebrating-27th-anniversary-americans-disabilities-act), explaining the FCC’s role in complying with the ADA and outlining FCC initiatives that advance information and communications access by people with disabilities. Earlier in the month, the FCC announced [**new video description regulations**](DOC-345757A1.pdf), increasing the hours of described video content from 50 to 87.5 hours per year. Video description provides people with a visual impairment access to onscreen actions and other nonverbal content that is visual and provides meaningful detail. The new rules will take effect on July 1, 2018.

In Wireless RERC News, principal investigator, Dr. Helena Mitchell, was interviewed for the IBM thinkLeaders Blog, [***Innovating for people with disabilities: Why companies should invest in universal design****.*](https://www.ibm.com/blogs/think-leaders/new-thinking/innovating-people-disabilities-companies-invest-universal-design/) The article discusses many pathways to inclusion, including the Internet of Things, incorporating universal design principles into all mainstream devices, and advancing assistive technologies. In efforts to advance accessible emergency communications, Frank Lucia will serve as the Wireless RERC representative on [**FEMA’s National Advisory Council (NAC), Integrated Public Alert and Warning System (IPAWS) Subcommittee**](https://www.fema.gov/ipaws-subcommittee). Over the two-year term of the NAC IPAWS Subcommittee, the members will generate recommendations to enhance the delivery of emergency messages in the event of a natural or human-made disaster. Wireless devices are fast becoming the most common way in which people receive emergency information. To facilitate access to these messages, the [**Wireless RERC’s YouTube channel**](https://www.youtube.com/user/WIrelessRERC/videos) was recently updated with new How To videos on customizing Wireless Emergency Alerts and other accessibility features on Android devices. Links are included below:

* [How to customize the Wireless Emergency Alert Settings (Android)](https://www.youtube.com/watch?v=vGTx0DlRlJM)
* [How To Turn on The Pulsing Light Feature (Android)](https://www.youtube.com/watch?v=PpTzAA4ZZ68)
* [How To Turn on TalkBack, Android's Screen Reader](https://www.youtube.com/watch?v=75FenLbxQdg)
* [How To Turn on Magnification Gestures (Android)](https://www.youtube.com/watch?v=rXbcAq9SbFU)
* [How to turn on Captioning (Android)](https://www.youtube.com/watch?v=i7GbgOhlUeY&t=57s)

This issue also includes news about Net Neutrality, the App Factory, wearables, assistive technology, design awareness, mixed-reality, artificial intelligence and more.

**Click the headings below to link directly to a particular section.**

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Executive Activities

**Presidential Proclamation in Recognition of the Anniversary of the ADA**

July 26, 2017 – On this day, President Donald Trump continued the annual tradition of proclaiming a day in celebration of the anniversary of the Americans with Disabilities Act. The 2017 Proclamation reads in part, “Americans are justifiably proud of the ADA and its accomplishments, but more can be done to protect the rights and dignity of Americans living with disabilities … My Administration will encourage American ingenuity and technological advancements in medicine and science, which will give millions of Americans with disabilities opportunities to work, engage in commerce, and connect with others in ways we could not have imagined 27 years ago.” By communities working together in both the public and private sectors, we can achieve the social, civic, and economic inclusion envisioned in the ADA.

#### Additional Information:

[Read the Presidential Proclamation](https://www.whitehouse.gov/the-press-office/2017/07/25/president-donald-j-trump-proclaims-july-26-2017-day-celebration-27th)

<https://www.whitehouse.gov/the-press-office/2017/07/25/president-donald-j-trump-proclaims-july-26-2017-day-celebration-27th>

Legislative Activities

**A Diversity of Witnesses Requested for Network Neutrality Hearing**July 26, 2017 – Representatives Frank Pallone, Jr. (D-NJ) and Mike Doyle (D-PA) sent a letter to Greg Walden, Chairman of the Committee on Energy and Commerce, and Marsha Blackburn, Chairman of the Subcommittee on Communications and Technology Committee on Energy and Commerce requesting that they diversify the list of witnesses.  Currently, the list of witnesses scheduled to testify at the September hearing on network neutrality all represent industry (both Internet-based companies and broadband internet access service providers) with a combined market capitalization of over two trillion dollars.  Representatives Pallone and Doyle asked the Chairs to recognize people who are not represented on the witness list but depend on internet services. They would like the hearings to include representatives from small business, people seeking employment opportunities, consumers, and public interest groups to be added to the witness list so they can provide input on this crucial issue of net neutrality.

#### Additional Information:

[Read the letter](https://democrats-energycommerce.house.gov/sites/democrats.energycommerce.house.gov/files/Walden.Blackburn.%20Letter%20re%20FCC%20website%20and%20Net%20Neutrality%20open%20comments%20Sep.%20hearing.%20CAT.pdf)

[<https://democrats-energycommerce.house.gov/sites/democrats.energycommerce.house.gov/files/Walden.Blackburn.%20Letter%20re%20FCC%20website%20and%20Net%20Neutrality%20open%20comments%20Sep.%20hearing.%20CAT.pdf>]

Regulatory Activities

**Celebrating the 27th Anniversary of the Signing of the ADA**

July 26, 1990, is considered a landmark year for improving the lives of people with disabilities. Former U. S. President George H. W. Bush signed into law the bill we know as the *Americans with Disabilities Act* (ADA).  The ADA set forth legislation and regulations to provide civil rights protections related to access to programs and services within and outside of the government. In recognition of the 27th anniversary of the ADA, the FCC and the DOJ released information on how they are guiding policy and enforcing laws to advance a more inclusive society for people who experience a disability.

On July 26, 2017, the FCC’s Acting Chief of the Consumer and Governmental Affairs Bureau, Patrick Webre published a blog post, *Celebrating the 27th Anniversary of the Americans with Disabilities Act*.  Mr. Webre explained the FCC’s role in complying with the ADA, ”[Title IV of the ADA](https://www.ada.gov/pubs/ada.htm) requires the FCC to ensure that nationwide [telecommunications relay services](https://www.fcc.gov/general/telecommunications-relay-services-trs) are available for people who are deaf, hard of hearing, deaf-blind, or who have a speech disability to communicate with other individuals in a manner that is functionally equivalent to people who use voice telephone services.”  The FCC provides oversight for various types of relay services including services provided when calling 7-1-1.  In 2010, Congress passed the [Twenty-First Century Communications and Video Accessibility Act](https://www.fcc.gov/general/twenty-first-century-communications-and-video-accessibility-act-0) (CVAA).  Through the CVAA, the FCC has provided funding for telecommunications equipment for people who are deaf-blind, implemented requirements for emergency information and video description, and expanded video-described programming on top-rated broadcast and non-broadcast networks.

The FCC also has a Disability Advisory Committee (DAC).  Dr. Helena Mitchell, principal investigator of the Wireless RERC and executive director of the Center for Advanced Communications Policy (CACP), is a member of the DAC.  Members of the committee serve two-year terms.  They address issues related to disability that are under the jurisdiction of the FCC.  These matters include, but are not limited to communications equipment, technology transitions, telecommunications relay services, access to video programming, and emergency services.  Learn more about how the FCC is making strides towards inclusion in the “Additional Information” links.

#### Additional Information:

[FCC Blog: Celebrating the 27th Anniversary of the Americans with Disabilities Act](https://www.fcc.gov/news-events/blog/2017/07/26/celebrating-27th-anniversary-americans-disabilities-act)

[[https://www.fcc.gov/news-events/blog/2017/07/26/celebrating-27th-anniversary-americans-disabilities-act](https://www.fcc.gov/news-events/blog/2017/07/26/celebrating-27th-anniversary-americans-disabilities-act)]

[Report and Order for increasing video description](https://apps.fcc.gov/edocs_public/attachmatch/DOC-345472A1.pdf)

[<https://apps.fcc.gov/edocs_public/attachmatch/DOC-345472A1.pdf>]

[Disability Advisory Committee](https://www.fcc.gov/fcc-announces-disability-advisory-committee-dac-roster-2017-19-and-tentative-meeting-dates)

<https://www.fcc.gov/fcc-announces-disability-advisory-committee-dac-roster-2017-19-and-tentative-meeting-dates>

**Department of Justice Highlights their ADA Enforcement Actions**

July 26, 2017 – The U.S. Department of Justice’s (DOJ) Civil Rights Division-Disability Rights Section published a document outlining recent settlements in cases related to enforcement of the Americans with Disabilities Act (ADA).  The cases cover accessible design, education, employment, health care, and voting rights.  The agreements regarding accessible design include not only physical spaces but communications accessibility, as well.

#### Additional Information:

[27 Years of the Americans with Disabilities Act](https://www.ada.gov/27th_anniv_rpt.html)

[[https://www.ada.gov/27th\_anniv\_rpt.htm](https://www.ada.gov/27th_anniv_rpt.html)l]

**FCC Announces Video Description Expansion**

 July 13, 2017 – The FCC announced new video description regulations, increasing the hours of described video content from 50 to 87.5 hours per year. Video description provides people with a visual impairment access to onscreen actions and other nonverbal content that is visual and provides meaningful detail. The new rules will take effect on July 1, 2018, and programming from networks such as ABC, CBS, Fox, NBC, Disney Channel, History, TBS, TNT, and USA will be more accessible to people with vision impairments.

The American Council of the Blind applauded the FCC’s decision. ACB has been working closely with the FCC for many years and had a strategic role in the passage of the 21st Century Communications and Video Accessibility Act of 2010 (CVAA). The CVAA put the issues of video-described programming back on the regulatory table. ACB executive director, Eric Bridges commented, "We see this as a step forward for equal access...And we'll continue to seek out new pathways forward for further expansion of audio description wherever possible.”

#### Additional Information:

[FCC Action Makes More TV Accessible to Americans Who Are Blind or Visually Impaired](http://transition.fcc.gov/Daily_Releases/Daily_Business/2017/db0712/DOC-345757A1.pdf)

**Documents:**

Word: [DOC-345757A1.docx](https://apps.fcc.gov/edocs_public/attachmatch/DOC-345757A1.docx)

PDF: [DOC-345757A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DOC-345757A1.pdf)

Text: [DOC-345757A1.txt](https://apps.fcc.gov/edocs_public/attachmatch/DOC-345757A1.txt)

[ACB Press Release](http://www.prnewswire.com/news-releases/acb-applauds-fcc-on-description-expansion-300488035.html)

[<http://www.prnewswire.com/news-releases/acb-applauds-fcc-on-description-expansion-300488035.html>]

Wireless RERC Updates

**Tracy Lindeman, IBM thinkLeaders Blog, Interviews Helena Mitchell**

July 25, 2017 - Wireless RERC, principal investigator, Dr. Helena Mitchell, was interviewed for the IBM thinkLeaders Blog, [*Innovating for people with disabilities: Why companies should invest in universal design.*](https://www.ibm.com/blogs/think-leaders/new-thinking/innovating-people-disabilities-companies-invest-universal-design/) The article discusses many pathways to inclusion, including the Internet of Things, incorporating universal design principles into all mainstream devices, and advancing assistive technologies. Dr. Mitchell pointed out the importance of including people with disabilities in the design and development phases. “One of the problems Mitchell hears most often from companies is that they don’t know how to reach enough people with disabilities to test a product. She urges companies to partner with universities to design, create and test new products. University research departments often have long lists of potential focus-group participants who could serve as product testers. And, Mitchell continues, schools also have labs and R&D groups that are far cheaper to hire and staff than creating a private lab.”

#### Additional Information:

[Read the Blog-](https://www.ibm.com/blogs/think-leaders/new-thinking/innovating-people-disabilities-companies-invest-universal-design/)*[Innovating for people with disabilities: Why companies should invest in universal design.](https://www.ibm.com/blogs/think-leaders/new-thinking/innovating-people-disabilities-companies-invest-universal-design/)*

[<https://www.ibm.com/blogs/think-leaders/new-thinking/innovating-people-disabilities-companies-invest-universal-design/>]

**The Wireless RERC’s App Factory Unveiled**

July 18, 2017 - App Factory: A flexible approach to rehabilitation engineering in an era of rapid technology advancement was published in the *Assistive Technology* journal. Authored by Michael Jones, James Mueller, and John Morris, the article describes the operations of this rather novel, and definitely adaptive way of utilizing grant funds.

**Abstract**

This article describes a flexible and effective approach to research and development in an era of rapid technological advancement. The approach relies on secondary dispersal of grant funds to commercial developers through a competitive selection process. This “App Factory” model balances the practical reliance on multi-year funding needed to sustain a rehabilitation engineering research center (RERC), with the need for agility and adaptability of development efforts undertaken in a rapidly changing technology environment. This approach also allows us to take advantage of technical expertise needed to accomplish a particular development task and provides incentives to deliver successful products in a cost-effective manner. In this article, we describe the App Factory structure, process, and results achieved to date; and we discuss the lessons learned and the potential relevance of this approach for other grant-funded research and development efforts. Data presentedonthedirectcostsandnumberofdownloadsofthe16appdevelopmentprojectsfundedintheApp Factory’s first three years show that it can be an effective means for supporting focused, short-term assistive technology development projects.

#### Additional Information:

[Read the Journal Article on the App Factory](http://www.tandfonline.com/doi/full/10.1080/10400435.2016.1211201)

<http://www.tandfonline.com/doi/full/10.1080/10400435.2016.1211201>

**New Videos Available on the Wireless RERC YouTube Channel**

The [Wireless RERC’s YouTube channel](https://www.youtube.com/user/WIrelessRERC/videos) was recently updated with new How To videos and an Accessible and Assistive Technology Research playlist. The most recent addition to the playlist includes our very own Dr. Helena Mitchell being interviewed at the Science and Information (SAI) International Conference in London where she moderated two panels in the “Technology Trends” and “Communications” tracks and chaired a demonstration session on “Personal Technology Devices.” Links are included below:

* [Accessible and Assistive Technology Playlist](https://www.youtube.com/watch?v=T0qtPHlMoDQ&list=PLzzRL0Xxismg09IKX0CGIjmrjU-wSdRun)
* [How to customize the Wireless Emergency Alert Settings (Android)](https://www.youtube.com/watch?v=vGTx0DlRlJM)
* [How To Turn on The Pulsing Light Feature (Android)](https://www.youtube.com/watch?v=PpTzAA4ZZ68)
* [How To Turn on TalkBack, Android's Screen Reader](https://www.youtube.com/watch?v=75FenLbxQdg)
* [How To Turn on Magnification Gestures (Android)](https://www.youtube.com/watch?v=rXbcAq9SbFU)
* [How to turn on Captioning (Android)](https://www.youtube.com/watch?v=i7GbgOhlUeY&t=57s)

#### Additional Information:

[Wireless RERC’s YouTube channel](https://www.youtube.com/user/WIrelessRERC/videos)

[<https://www.youtube.com/user/WIrelessRERC/videos>]

**Wireless RERC Appointed to the FEMA IPAWS Subcommittee**

July 11, 2017 – Frank Lucia was selected to serve as the Wireless RERC representative on FEMA’s National Advisory Council (NAC), Integrated Public Alert and Warning System (IPAWS) Subcommittee. He is among the 31 representatives that will provide subject-matter expertise from various stakeholder perspectives including disability access researchers, consumer advocates, the wireless industry, broadcasters, alerting equipment manufacturers and vendors, public safety practitioners (state and local), and senior federal leaders. Over the two-year term of the NAC IPAWS Subcommittee, the members will generate recommendations to enhance the delivery of emergency messages in the event of a natural or human-made disaster. Subcommittee goals include ensuring that IPAWS (verbatim):

1. Incorporates multiple communications technologies;
2. Adapts to and incorporates future technologies for communicating directly with the public;
3. Provides alerts to the largest portion of the affected population, including non-resident visitors and tourists, individuals with disabilities, individuals with access and functional needs, and individuals with limited English proficiency, and improves the ability of remote areas to receive alerts;
4. Enhances community preparedness and response through local and regional public and private partnerships;
5. Reaches the greatest number of people through redundant alert mechanisms; and
6. Protects individual privacy.

#### Additional Information:

[IPAWS+Subcommittee+Selection+Annoucement.pdf](http://links.govdelivery.com/track?type=click&enid=ZWFzPTEmbWFpbGluZ2lkPTIwMTcwNzExLjc1NzYxMTcxJm1lc3NhZ2VpZD1NREItUFJELUJVTC0yMDE3MDcxMS43NTc2MTE3MSZkYXRhYmFzZWlkPTEwMDEmc2VyaWFsPTE3NDMwOTc1JmVtYWlsaWQ9c2FsaW1haEBjYWNwLmdhdGVjaC5lZHUmdXNlcmlkPXNhbGltYWhAY2FjcC5nYXRlY2guZWR1JmZsPSZleHRyYT1NdWx0aXZhcmlhdGVJZD0mJiY=&&&100&&&https://content.govdelivery.com/attachments/USDHSFEMA/2017/07/11/file_attachments/844946/IPAWS%2BSubcommittee%2BSelection%2BAnnoucement.pdf)

[<http://bit.ly/2hE78Eb>]

# [IPAWS Subcommittee Webpage](https://www.fema.gov/ipaws-subcommittee)

[<https://www.fema.gov/ipaws-subcommittee>]

Publications

**guidance on emergency response measures for people with disabilities**

July 19, 2017 - The Administration for Community Living (ACL) has created a document providing guidance on emergency response measures for people with disabilities as outlined under Title VII of the Rehabilitation Act of 1973. Established policies and up-to-date best practices are crucial before, during, and after an emergency. Time and resources can be used efficiently when policies and procedures are already established.  In addition, some people with disabilities depend on essentials such as power to operate medical devices and communications equipment.  Well-coordinated resources are essential during and after an emergency.

The document is designed to help Centers for Independent Living (CILs), Statewide Independent Living Councils (SILCs), and members of the community address issues based on questions ACL has received.  The document covers developing memorandums of agreement (MOAs) that specify steps SILCs can take to assist people with disabilities in affected disaster areas (in and outside of the Center’s service area, and What kind of information ACL requires in an MOA for a CIL to provide disaster response services to individuals located outside their approved service area).

Centers for Independent Living and sponsored programs receive support through federal funding.  This information brings awareness to community leaders regarding the resources in their area and helps establish guidelines before a disaster occurs.  Title VII, chapter 1 of the Rehabilitation Act of 1973 states the current purpose of such programs is to “promote a philosophy of independent living including a philosophy of consumer control, peer support, self-help, self-determination, equal access, and individual and system advocacy, in order to maximize the leadership, empowerment, independence, and productivity of individuals with disabilities, and the integration and full inclusion of individuals with disabilities into the mainstream of American society.”

Contact Corinna Stiles, Director of the Office of Independent Living, at Corinna.stiles@acl.hhs.gov if you have clarifying questions or concerns about ACL’s Frequently Asked Questions (FAQ) related to emergency response for people with disabilities. For help implementing any of the suggested steps, please contact your state project officer directly.

#### Additional Information:

[FAQ on Independent Living Emergency Preparedness and Disaster Response Services](https://www.acl.gov/news-and-events/announcements/faq-independent-living-emergency-preparedness-and-disaster-response)

<https://www.acl.gov/news-and-events/announcements/faq-independent-living-emergency-preparedness-and-disaster-response>

**Smart Glove Wirelessly Translates American Sign Language**

July 12, 2017 - Researchers at the Department of Nano Engineering at the University of California released a paper this week detailing a new Bluetooth enabled smart glove that can “read” American Sign Language (ASL). The glove, still in prototype phase, is able to translate ASL signs and transmit English translation wirelessly to a smartphone or computer. The glove is expected to cost less than one hundred dollars. The smart glove represents one low-cost solution intended to bridge the communication/language gap between ASL users and non-users. Source: Timothy O’ Connor, PLOS One Journal.

#### Additional Information:

[The Language of Glove: Wireless gesture decoder with low-power and stretchable hybrid electronics](http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0179766)

[<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0179766>]

Other Items of Interest

**Technological Equality and the ADA**

July 26, 2017 -This week marked the 27th anniversary of the Americans with Disabilities Act, and IBM did not let the occasion pass without commenting on the importance of technology in advancing social equity. With the approval of Section 508’s Amendment of the U.S. Rehabilitation Act of 1973, IBM published an accessibility checklist for creating inclusive technologies and reported that they are the first major U.S. company to embrace the revised 508 standards with the Web Content Accessibility Guidelines 2.0.

Director of Accessibility Research at IBM, Dr. Ruoyi Zhou mused, “It is important to reflect upon the evolving role technology plays in creating a more inclusive workplace and society. It’s a reminder of how far we’ve come, but also how much work is left to do. We must continue pushing technology to eliminate barriers so everyone can achieve their full potential at work and through life.”

Dr. Zhou’s blog post is a timely reminder of the importance of global inclusion and making technology accessible for all.

#### Additional Information:

[Committed to Technology Equality for People with Disabilities](https://www.ibm.com/blogs/think/2017/07/42282/)

[[https://www.ibm.com/blogs/think/2017/07/42282](https://www.ibm.com/blogs/think/2017/07/42282/)/]

**Nucleus 7, the First Fully iPhone Compatible Cochlear Implant**

July 26, 2017 - Apple and Australian-based company Cochlear announced their first attempt to bring users with hearing loss a fully iPhone compatible cochlear implant. The device, named the Nucleus 7, features improved battery life and a smaller design compared to its predecessors, making it useable by children and adults. The Nucleus 7 pairs with the iPhone, IPad and iPod touch and can be controlled from the devices. No app download is required. Senior Manager for Global Accessibility Policy and Initiatives at Apple, Sarah Herrlinger, wrote, “we want everybody to use our technology and to say ‘wow my iPhone is the best piece of technology I’ve ever used before’…with every iteration of our operating system, our goal is to add in new accessibility features in order to expand the support that we can give to people all over the world.”

Cochlear CEO Chris Smith wrote, “The approval of the Nucleus 7 Sound Processor is a turning point for people with hearing loss, opening the door for them to make phone calls, listen to music in high-quality stereo sound, watch videos and have FaceTime calls streamed directly to their Cochlear implant. This new sound processor builds on our long-standing commitment to help more people with hearing loss connect with others and live a full life.” The device received approval from the U.S. Food and Drug Administration in June. Source: Sarah Buhr, Tech Crunch

#### Additional Information:

[Apple and Cochlear team up to roll out the first implant made for the iPhone](https://techcrunch.com/2017/07/26/apple-and-cochlear-team-up-to-roll-out-the-first-hearing-aid-implant-made-for-the-iphone/)

[<https://techcrunch.com/2017/07/26/apple-and-cochlear-team-up-to-roll-out-the-first-hearing-aid-implant-made-for-the-iphone/>]

**A Reminder on Accessibility Features and Design Awareness**

July 24, 2017 - In a recent post in Tech Radar, technology writer Cameron Faulkner reflected on the importance of accessibility features in​ ensuring people with different types of disabilities can use technology. Touch interfaces and voice-activated devices have allowed many people to use devices and technologies hitherto unavailable/inaccessible to them. After watching a student who was blind activate the accessibility features on a tablet computer, Faulkner wrote, “this tablet’s usefulness had grown exponentially for her with just a few quick adjustments. It was an awe-inspiring experience wherein that moment, I realized that it isn’t just a luxury item with which people can waste time reading, playing games and watching movies. For some people, these settings allow them to do things that would otherwise be impossible.” Nevertheless, Faulkner reminds us there is still a long way to go to ensure accessibility for all. Rather than designing accessibility features as an afterthought, technology companies and designers should incorporate inclusion in their design philosophies from the outset. Every user, regardless of ability, can benefit from easier, more intuitive forms of interacting with software and devices. Source: Cameron Faulkner, Tech Radar

#### Additional Information:

[A lesson on why accessibility features are so important](http://www.techradar.com/news/a-lesson-in-why-accessibility-features-are-so-important)

[<http://www.techradar.com/news/a-lesson-in-why-accessibility-features-are-so-important>]

**Microsoft Making Mixed-Reality Smarter**

July 23, 2017 - At Hawaii’s annual Computer Vision and Pattern Recognition Conference (CVPR), Microsoft announced that its upcoming second generation HoloLens will incorporate an AI co-processing unit to enable more features and services. The HoloLens is described as the world’s first “fully self-contained holographic computer,” to display augmented and virtual reality, or, “mixed-reality content,” to the user. The AI co-processor will allow the device to perform more functions without relying on the cloud, with faster processing times and increased mobility. Speaking of the upcoming device, CEO Satya Nadella said, “this is the kind of thinking you need if you’re going to develop mixed reality devices that are themselves intelligent. Mixed reality and artificial intelligence represent the future of computing, and we’re excited to be advancing this frontier.” Devices such as HoloLens hold great promise for assisting users with visual impairments with its use of mixed reality overlays and artificial intelligence. For example, HoloLens could assist users with vision loss to navigate their homes or workplaces more safely and efficiently.

#### Additional Information:

[Second version of HoloLens HPU will incorporate AI coprocessor for implementing DNNs](https://www.microsoft.com/en-us/research/blog/second-version-hololens-hpu-will-incorporate-ai-coprocessor-implementing-dnns/?ranMID=24542&ranEAID=TnL5HPStwNw&ranSiteID=TnL5HPStwNw-JKWv2Glj.x__9dzk69e6lA&tduid=%28f28752c0c791062510f827da2600e793%29%28256380%29%282459594%29%28TnL5HPStwNw-JKWv2Glj.x__9dzk69e6lA%29%28%29)

[<https://www.microsoft.com/en-us/research/blog/second-version-hololens-hpu-will-incorporate-ai-coprocessor-implementing-dnns/?ranMID=24542&ranEAID=TnL5HPStwNw&ranSiteID=TnL5HPStwNw-JKWv2Glj.x__9dzk69e6lA&tduid=%28f28752c0c791062510f827da2600e793%29%28256380%29%282459594%29%28TnL5HPStwNw-JKWv2Glj.x__9dzk69e6lA%29%28%29>]

**Shieldex is a Stretchable Motion Sensor**

July 13, 2017 - A team of researchers at Harvard have unveiled a new type of stretchable motion sensor called Shieldex. The device is made of two layers of fabric that surrounds a film of soft electrically insulated silicone which can be cut into any desired shape. The fabric and metal-plated silicone stretch in unison ensuring a continuous current of electrodes. Less obtrusive and more comfortable sensors could lead to new opportunities for people with disabilities such as flexible exoskeletons, or sensors that adjust to the growth of the user. Source: Menaka Wilhelm, Wired

#### Additional Information:

[Soft Sensors Might Make Wearables Actually Wearable](https://www.wired.com/story/soft-sensors-might-make-wearables-actually-wearable/)

[[https://www.wired.com/story/soft-sensors-might-make-wearables-actually-wearable/](https://www.wired.com/story/soft-sensors-might-make-wearables-actually-wearable/%20)]

**Modular Stairs Decrease Stress and Increase Safety**

July 12, 2017 - A team of researchers at Georgia Tech and Emory University have developed a mechanical staircase that assists people with mobility impairments. Existing staircases can be adapted to accommodate the device, which decreases the stress on knees and ankles allowing for an easier climb. The prototype features low-power, modular steps with springs and sensors to compress and expand when in use, reducing knee stress by up to 37%. Lena Tina, a co-author of the paper and a professor of biomedical engineering at Emory and Georgia Tech wrote, “Current solutions for people who need help aren’t very affordable. Elevators and stair-lifts are often impractical to install at home. Low-cost, easily installed assistive stairs could be a way to allow people to retain their ability to use stairs and not move out of their homes.” Source: Jason Maderer, Georgia Tech News Center.

#### Additional Information:

[Climbing Stairs Just Got Easier with Energy-Recycling Steps](http://www.news.gatech.edu/2017/07/12/climbing-stairs-just-got-easier-energy-recycling-steps)

[[http://www.news.gatech.edu/2017/07/12/climbing-stairs-just-got-easier-energy-recycling-steps](http://www.news.gatech.edu/2017/07/12/climbing-stairs-just-got-easier-energy-recycling-steps%20)]

**Microsoft’s Seeing AI Helps Users with Vision Disabilities**

July 12, 2017 - Microsoft has released Seeing AI, a smartphone app that uses the device’s camera and algorithms to assist people with vision impairments. Seeing AI can recognize faces, estimate a person’s mood and age, read and scan documents, and distinguish U.S. paper currency. Other experimental features, including reading handwriting or describing every item in a room, may come further in development. Powered by neural networks, the app is also capable of performing simple functions without an internet connection, increasing its reach and utility in areas with limited network coverage. Saqib Shaikh, tech lead on Seeing AI wrote, “One of the things we wanted to do was face recognition on the device, and we’ve done that so within a few milliseconds you’ll hear the result. It’s all about the speed, and we try to do as much as we can on the device.” Seeing AI is available now on iOS with plans to expand to Android devices. Source: James Vincent, The Verge

#### Additional Information:

### [Microsoft's new iPhone app narrates the world for blind people](https://www.theverge.com/2017/7/12/15958174/microsoft-ai-seeing-app-blind-ios)

[<https://www.theverge.com/2017/7/12/15958174/microsoft-ai-seeing-app-blind-ios>]

**Google Announces its Newest Artificial Intelligence Fund, Gradient**

July 11, 2017 - Over the past few years Google has focused on machine intelligence, and in July announced its new artificial intelligence (AI) startup, Gradient Ventures. Google CEO, Sundar Pichai, stated that he wishes for the company to be on the forefront of AI. To this end, Google has been recruiting top AI investors and technical talent for years and its newest partner continues that trend. Artificial intelligence holds particular promise for people with disabilities as it can adapt intelligently to the individual and/or context-specific needs and preferences of the user. Anna Peterson, head of Gradient Ventures, said, “The biggest benefit for Google is spurring innovation in the AI space.” Source: John Mannes, Tech Crunch

#### Additional Information:

[Anna Patterson talks Gradient Ventures, Google’s new AI fund](https://techcrunch.com/2017/07/11/anna-patterson-talks-gradient-ventures-googles-new-ai-fund/)

[https://techcrunch.com/2017/07/11/anna-patterson-talks-gradient-ventures-googles-new-ai-fund/]

**For Two Veterans, a Freedom Restored for Independence Day**

July 2, 2017 – Veterans, Fred Downs, who lives in Maryland and Artie McAuley, who lives in New York received a new arm called the Life Under Kinetic Evolution or LUKE.  According to the Department of Veterans Affairs (VA), Mr. Downs and Mr. McAuley are the first to receive the LUKE arm.  This new prosthetic arm is a culmination of eight years of research, and various collaborations between private companies, the VA, and the Defense Advanced Research Projects Agency (DARPA).  The LUKE arm “allows for smooth and simultaneous movement using motors at the shoulder, elbow, wrist, and hand to flex and turn or lift and grip.”  The arm offers a whole new functionality to a prosthesis that mimics natural human movement.  Sensors worn on the feet/shoes or other easy usable controllers produce a wireless signal that enables the user of the LUKE arm to simulate a variety of grips and grip forces.  For example, the user can open a door, hold and throw a baseball, or pick up an egg.  These movements require varying grips and controlled forces of grip to accomplish the task.

Dr. Leif Nelson, one of the developers of the LUKE arm, explains the differences in this new prosthesis and previous prosthetic arms that were prescribed.  He stated, “This is the first device that intuitively moves multiple joints at one time.  With other technology, you had to use the hand, then stop. Use the wrist, then stop. It wasn’t fluid.” The on-skin sensors detect nerve signals and translate the signals into specific movements. This is one of the latest examples of how technology is providing people with disabilities more opportunities for achievable independence.

Mr. McAuley stated that he is looking forward to raising both arms to celebrate a touchdown when football season starts.  He has not been able to raise both arms for over 50 years.  Mr. Downs commented, “…With a prosthetic limb, your independence and dignity are returned to you. This is freedom, let me tell you…”

#### Additional Information:

[Giving the Gift of Independence on Fourth of July: Veterans Receive DARPA’s LUKE Arm](https://www.darpa.mil/news-events/2017-06-30)

<https://www.darpa.mil/news-events/2017-06-30>

[TV News Link Regarding LUKE (Not fully accessible)](http://newyork.cbslocal.com/2017/06/30/luke-prosthetic-arms/)

<http://newyork.cbslocal.com/2017/06/30/luke-prosthetic-arms/>

Upcoming Events

**The Digital Accessibility Legal Update**

On Tuesday, August 15, 2017, from 2:00 P.M. to 3:30 P.M. EST the Great Lakes ADA Center will host a free webinar, *Putting Accessibility Law in your Pocket: the Digital Accessibility Legal Update*. In the 21st century, life happens online, and without accessibility, people with a disability are excluded. Learning to talk about disability rights laws as a tool of motivation and not fear.  Learn to talk about the law in a way that recognizes people with disabilities’ rights to access websites, mobile applications, kiosks, and all things digital.

#### Additional Information:

[ADA Audio Conference Series](http://accessibilityonline.org/ADA-Audio/schedule)

[<https://www.accessibilityonline.org/ada-audio/schedule> ]

**Making Tech Fields Accessible**

The Partnership on Employment and Accessible Technology (PEAT) will host a free PEAT TALKS webinar, *Making Tech Fields Accessible*. The webinar will be Thursday, August 17, 2017, from 2:00:00 PM EDT - 3:00:00 PM EDT. Ather Sharif, founder of EvoXLabs, will discuss his experiences in making tech-focused workplaces more inclusive, and EvoXLabs’s partnership with Access Computing at the University of Washington that connects students with disabilities with mentors and internships in technology.

#### Additional Information:

[Event Registration](https://events-na12.adobeconnect.com/content/connect/c1/1285741125/en/events/event/shared/1730697052/event_landing.html?sco-id=1730649435)

[<https://events-na12.adobeconnect.com/content/connect/c1/1285741125/en/events/event/shared/1730697052/event_landing.html?sco-id=1730649435>]

**GSMA Mobile World Congress Americas**

Mobile World Congress will convene from September 12 to September 14, 2017, in San Francisco, California. The conference sessions will address core mobile technologies, consumer and industrial applications in the Internet of Things and the intersection of mobile with entertainment, content, and media.

#### Additional Information:

[Conference Registration](https://www.mwcamericas.com/register-plan/register/)

[<https://www.mwcamericas.com/>]

**Technology and Disability Policy Highlights,** July 2017



The Technology and Disability Policy Highlights (TDPH) is a monthly newsletter that reports on national public policy events and tracks emerging issues of interest to individuals with disabilities, researchers, policymakers, industry, and advocacy professionals. The Wireless RERC is a research center that promotes universal access to wireless technologies and explores their innovative applications in addressing the needs of people with disabilities. For more information on the Wireless RERC, please visit our website at [<http://www.wirelessrerc.org>]. For further information on items summarized in this report, or if you have items of interest that you would like included in future editions, please contact this edition’s editors Synge Tyson [[synge@cacp.gatech.edu](file:///C%3A%5CUsers%5Csalimah%5COneDrive%20-%20Georgia%20Institute%20of%20Technology%5CwiRERC_2016%20-%202021%5CTDPH%5CApril%202017%5Csynge%40cacp.gatech.edu)], Kenneth Goughnour [kenneth@cacp.gatech.edu], or Salimah LaForce [[salimah@cacp.gatech.edu](file:///C%3A%5CUsers%5Csalimah%5COneDrive%20-%20Georgia%20Institute%20of%20Technology%5CwiRERC_2016%20-%202021%5CTDPH%5CApril%202017%5Csalimah%40cacp.gatech.edu)].

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