TECHNOLOGY AND DISABILITY POLICY HIGHLIGHTS – SPRING 2021

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Regulatory Activities   Wireless RERC News   Other Items of Interest   Upcoming Events

OVERVIEW

During March, disability advocates and members of the community celebrated Developmental Disabilities Awareness Month. The National Association of Councils on Developmental Disabilities (NACDD) coordinated with state and local municipal governments to raise awareness for better inclusion of people with developmental disabilities in all aspects of human life. Each year a **resource guide** is curated and includes videos, toolkits, photos, personal stories, promising practices, and more.

In regulatory news, the Federal Communications Commission (FCC or Commission) moved forward proceedings concerning (1) whether updates are needed to FCC rules implementing the Twenty-First Century Communications and Video Accessibility Act (CVAA), (2) emergency communications, and (3) telehealth. The FCC adopted a Report and Order to provide objective evaluation metrics for healthcare providers' applications for funding. Regarding emergency communications, the FCC published a Notice of Proposed Rulemaking (NPRM) and Notice of Inquiry (NOI) [**PS Docket Nos. 15-91 and 15-94**], concerning, among other things allowing federal agencies such as the Department of Homeland Security, authority to initiate presidential alerts under a new "national" emergency alert class (NPRM) and whether it is technically feasible to deliver EAS alerts through the internet, including through streaming services (NOI).

In Wireless RERC news, we convened our **State of Technology Forum**, examining the evolving nature and capacities of wireless technologies and identifying opportunities to meet a range of community needs for access, equity, and inclusion. The program comprised a series of discussion-based sessions focused on the role of research, development, and stakeholder engagement in advancing the full social inclusion of people with disabilities. The discussions were punctuated by Rapid Fire Research Demos, Lightning Development Demos, and selected paper presentations. R&D Showcase Videos included: **Augmented Reality as a Design Tool**, **Socially Assistive Robot for Respite Care**, **Inclusive Emergency Lifelines**, **Wearable Technology Designer's Web Tool**, and the **Tactile Graphics Helper**.

This issue also includes news about the internet of things, socialbots, assistive technology, brain-computer interfaces, autonomous vehicles, robotic pets, and more.

REGULATORY ACTIVITIES

EXPANDING TELECOMMUNICATIONS PROVIDERS: CLEARCAPTIONS

April 13, 2021 — The Consumer and Governmental Affairs Bureau (CGB) of the FCC released a Memorandum Opinion and Order [**CG Docket No. 03-123**] pertaining to the telecommunications relay services and speech-to-speech services for individuals with hearing and speech disabilities. This memo grants ClearCaptions the certification to issue Internet Protocol Captioned Telephone Service (IP CTS) on a fully automatic basis. This certification also grants ClearCaptions access to the TRS Fund. This compensation is for calls that utilize automatic speech recognition (ASR) technology. Finally, ClearCaptions received TRS rules waivers relating to the language of consumer self-certification and the requirement to submit URLs for calls. [Source: FCC]

ADDITIONAL INFORMATION:

[Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities](https://docs.fcc.gov/public/attachments/DA-21-419A1.pdf)
https://docs.fcc.gov/public/attachments/DA-21-419A1.pdf

REVISIONS TO THE CVAA RULES IN RESPONSE TO CHANGING TECHNOLOGY

April 7, 2021 — The FCC released a Public Notice requesting stakeholders' commentary on whether updates are needed to FCC rules implementing the Twenty-First Century Communications and Video Accessibility Act (CVAA). The Commission is requesting comments relating to access to video programming, audio description, closed captioning of internet protocol (IP) delivered video programming, accessible emergency information, and accessible user interfaces. Moreover, the Commission also encourages comments on their rules regarding access to interconnected voice over IP (VoIP), non-interconnected VoIP services, electronic messaging services, and interoperable video conferencing services), the National Deaf-Blind Equipment Distribution Program, and accessible internet browsers on mobile phones. Comments are due by May 24, 2021, and reply comments are due by June 21, 2021. [Source: FCC]

ADDITIONAL INFORMATION:

[FCC Seeks Comment on Fulfillment of the CVAA](https://www.fcc.gov/document/fcc-seeks-comment-fulfillment-cvaa)
https://www.fcc.gov/document/fcc-seeks-comment-fulfillment-cvaa

REPORT & ORDER PROVIDES RULES & REGULATIONS FOR TELEHEALTH PROGRAM

March 30, 2021 – The FCC formally approved a Report and Order (R&O) and Order on Reconsideration on rules and regulations for the second round of COVID-19 Telehealth Program funding. Through this R&O, the FCC defined a clear methodology for rating healthcare providers' applications and considers

several objective factors: the healthcare providers' geographic region and population served. Round 2 also establishes an equitable funding method by providing all telehealth providers a set application filing window to apply an adequate time for everyone. The FCC's rationale for this rule was that awarding funding on a rolling basis did not allow the agency to compare applications against each other and implement the objective set of evaluation metrics. The FCC also decided to ensure funding is equitably distributed to each state, territory, and the District of Columbia, reducing overrepresentation in healthcare provider fundees from any state or region. Moreover, the agency elected not to award more than $1 million per applicant to commit to a better funding distribution to more applicants. In this Report & Order, the agency also provides concrete filing requirements such as the FCC Form 460, and applicants must have a healthcare provider number (HCP number) assigned to them by USAC. [Source: FCC]

ADDITIONAL INFORMATION:

FCC Adopts R&O To Start Round 2, COVID-19 Telehealth Program

https://www.fcc.gov/document/fcc-adopts-ro-start-round-2-covid-19-telehealth-program

IMPROVING EMERGENCY ALERTING MANAGEMENT

March 17, 2021 – Earlier this year, Section 9201 of the *National Defense Act for Fiscal Year 2021* required the Commission to improve the Emergency Alert System (EAS) by meeting the following criteria within 180 days of February 24, 2021:

- Ensure mobile devices cannot opt-out of receiving WEA alerts from the FEMA Administrator.
- Amend the annual reporting requirements for State Emergency Communications Committees (SECC).
- Enable reporting of false EAS, and WEA alerts by the FEMA Administrator and state, Tribal, or local governments.
- Provide for repeating EAS alerts issued by the President, the FEMA Administrator, and any other entity determined appropriate by the Commission.
- Examine the feasibility of updating EAS to improve alerts to consumers through the Internet, including from streaming services.

On March 17th, the FCC adopted the Notice of Proposed Rulemaking and Notice of Inquiry [**PS Docket No. 15-94 and PS Docket No. 15-91, FCC 21-36**]. In compliance with the *National Defense Act for Fiscal Year 2021*, the FCC proposed to:

- Combine the current "Presidential Alerts" category, which is non-optional on devices that receive Wireless Emergency Alerts, with alerts from the FEMA Administrator. The new non-optional alert class would be called "National Alerts."

- Encourage all states to form State Emergency Communications Committees, which help administer alerting on the state level or review the composition and governance of existing committees and require these committees to certify that they held a meeting in the past year.
- Provide a checklist of information that should be included in annual submissions of state Emergency Alert System plans and amend the Commission review of those plans.
- Specify that government agencies may report false emergency alerts to the FCC's 24/7 Operations Center.
- Require and ensure that Emergency Alert System participants can repeat certain alerts over television and radio when the government alert originator requests them.

As it pertains to the Notice of Inquiry, the Commission sought comments on the following:

- Whether it is technically feasible to deliver EAS alerts through the Internet, including through streaming services.
- Whether and how to leverage the Internet's capabilities to enhance the alerting capabilities of the radio and television broadcasters, cable systems, satellite radio, and television providers, and wireline video providers that currently participate in EAS.

The commenting window for the Notice of Inquiry is still open. Comments on the Notice of Inquiry are due on or before May 14, 2021, and reply comments are due on or before June 14, 2021. [Source: FCC]

ADDITIONAL INFORMATION:

FCC Proposes to Further Strengthen Emergency Alerting

https://www.fcc.gov/document/fcc-proposes-further-strengthen-emergency-alerting-0

Improving the Emergency Alert System and Wireless Emergency Alerts

https://www.fcc.gov/document/improving-emergency-alert-system-and-wireless-emergency-alerts

WIRELESS RERC NEWS

The Wireless RERC convened its State of Technology Forum on Tuesday, March 23rd, and Wednesday, March 24th. The Forum examined the evolving nature and capacities of wireless technologies and identified opportunities to meet a range of community needs for access, equity, and inclusion. Attendees helped chart the next generation of wireless/connected technology opportunities to enhance the lives of people with disabilities. The program comprised a series of discussion-based sessions focused on the role of research, development, and stakeholder engagement in the design of inclusive

technology, policy, and regulations that advance the full social inclusion of people with disabilities. The discussions were punctuated by Rapid Fire Research Demos, Lightning Development Demos, and selected paper presentations.

On Wednesday, March 24th, the keynote-themed discussion, "The best way to predict the future is to invent it," investigated the state of technology through reflection and roundtable conversation. There were three guiding questions: *What are the issues that researchers, technologists, and stakeholders believe need attention now? What are the remaining challenges and opportunities for the future? What are the next steps to define what lies ahead?* To synthesize and examine these questions, experts such as Dr. Kay Chiodo, Joan Durocher, Paul Schroeder, Dr. Brad Fain, and Dr. Helena Mitchell weighed in.

R&D Showcase Videos included:

- [Augmented Reality as a Design Tool](), Team: Young Mi Choi, Ted Kim, Karan Jain, Akash Talyan, Santiago Arconada
- [Socially Assistive Robot for Respite Care](), Team: John Bricout, Julienne Greer, Noelle Fields, Priscila Tamplain, Kristen Doelling, Bonita Sharma, Gajendran Palaniyandi
- [Inclusive Emergency Lifelines](), Team: Maureen Linden, Colin Ahn, Kay Chiodo, Dan Heller, Anushri Kumar, Salimah LaForce, Pete Presti, Glenn Shell, Ben Thompson
- [Wearable Technology Designer's Web Tool](), Team: Maribeth Gandy Coleman, Clint Zeagler, Scott Robertson, Rishabh Ghora, Rohan Bawa
- [Tactile Graphics Helper](), Team: Val Morash, Giovanni Fusco, James M. Coughlan

To view the other Forum materials, including the draft proceedings papers, please visit: **[State of Technology Forum 2021 | Wireless Inclusive RERC| Georgia Institute of Technology | Atlanta, GA (gatech.edu)]()**

http://www.wirelessrerc.gatech.edu/state-technology-forum-2021-0

OTHER ITEMS OF INTEREST

DISABILITY AWARENESS EVENTS AND INITIATIVES

Spring 2021 – On April 2nd, the United Nations celebrated [World Autism Awareness Day](). The keynote event, *Inclusion in the Workplace: Challenges and Opportunities in a Post-Pandemic World*, explored the impacts of COVID-19 on the UN's Sustainable Development Goal 8 – Decent Work and Economic Growth – to "promote full and productive employment and decent work for all, including people with disabilities." This event addressed how to continue meeting this goal, particularly for people who are neurodivergent such as people with autism, as the pandemic has influenced companies' work models. During March, disability advocates and members of the community celebrated Developmental

Disabilities Awareness Month. The National Association of Councils on Developmental Disabilities (NACDD) coordinated with state and local municipal governments to raise awareness for better social inclusion of people with developmental disabilities. For example, in Mansfield, Ohio, Richland County hosted a book distribution to local schools to acknowledge Developmental Disabilities Awareness. The distributed books centered around the theme of inclusion. With help from Scholastic, Richland County Youth and Family Council, and United Way's Big Red Bookshelf, the county disseminated 1,400 copies of the "Strictly No Elephants" book by Lisa Mantchev.

ADDITIONAL INFORMATION:

World Autism Day

https://www.un.org/en/observances/autism-day

Developmental Disabilities Awareness Month

https://www.nacdd.org/ddam1/

THE BENEFITS OF IoT FOR ACCESSIBILITY

April 14, 2021 – Statistics show that by the end of 2018, there were an estimated 22 billion Internet of Things (IoT) devices in use worldwide. This number has only grown since, and IoT has made a significant contribution to accessibility efforts. After the passage of the Americans with Disabilities Act (ADA), employers incorporated basic practices such as accessibility ramps and automatic doors into the workplace. However, IoT innovations have broken the barrier to entry in the job market: assistive technologies like screen-reader software, intelligent voice assistants, brain-computer interfaces (BCI), and more are helping persons with disabilities reach their full potential in the workplace.

The emergence of IoT has also offered people with disabilities reduced dependence on others in their everyday lives. Technologies like motion detector lights for when a person without sight enters a room, thermostats that can be controlled with voice or a phone, and showers that automatically adjust temperatures have been helpful for persons with disabilities in independently navigating and controlling their environments. IoT has helped the world move towards inclusion. We can continue to grow by putting the needs of persons with disabilities front and center in IoT design and development activities. [Source: Jocelyn Brown, IoT Now]

ADDITIONAL INFORMATION:

Improving accessibility for people living with a disability

https://www.iot-now.com/2021/04/14/109174-the-effect-of-iot-in-improving-accessibility-for-people-living-with-a-disability/

ASSISTIVE CAPTIONING AND LISTENING TECH FOR THE MOVIES

April 11, 2021 – Minnesota. The Lakes 12 Theatre in Baxter and the Sunset Cinema offers its movie patrons who are hard-of-hearing *closed-captioning and assistive listening devices*, free of cost. "There is infrared equipment in each auditorium that automatically sends the needed information to each closed-caption or assistive listening device depending on which auditorium the customer is in, so they work automatically," said Shane Martin, owner of the cinema. According to Martin, assistive listening devices are headphone-type devices that can amplify the movie's audio or offer descriptions of the action on the screen like a narrator for individuals who are blind or low vision. The closed-captioned devices fit into cup holders on each seat and display dialogue as the movie plays. Customers can adjust the screen to their line of sight so that they can see the actual movie screen plus the captioning screen.

According to the National Association of the Deaf, since Jan. 17, 2017, movie theaters with captioning devices must have staff to assist patrons with the devices. Federal regulations also require theaters to provide equipment for closed-captioning and audio description at a patron's seat whenever showing a movie produced with these features.

In addition to its assistive devices, Sunset Cinema also updated its stair and aisle lighting and added railings in all of its auditoriums to make it easier to navigate auditoriums for those with physical disabilities. "We want to make sure everyone has the chance to enjoy movies at the theater," Martin said. [Source: Frank Lee, Brainerd Dispatch]

ADDITIONAL INFORMATION:
Tech Savvy: Closed-captioning and assistive listening at the movies
https://www.brainerddispatch.com/business/technology/6975785-Tech-Savvy-Closed-captioning-and-assistive-listening-at-the-movies

WHO ASSEMBLY: PROGRESS INDICATORS FOR ACCESS TO ASSISTIVE TECH

April 7, 2021 – The 71st World Health Assembly adopted *Resolution WHA71.8* in 2018, urging member nations to improve access to assistive technology. Today, 1 billion people globally need assistive technology to lead healthy, productive, and dignified lives, but only 1 in 10 have access. Due to the lack of global data on access to assistive technology, the assembly also requested the WHO to develop a global report on this subject and create progress reports in 2022, 2026, and 2030 to communicate the progress member states make in implementing the resolution. Thus, WHO has developed the *WHA71.8 Progress Indicators for access to assistive technology* to collect high-level information from all member states to track and measure progress in achieving the resolution. The Progress Indicators monitor the status of assistive technology access across ten areas reported in the resolution: legislation, population, and geographic coverage, budget, responsible ministries, human resources,

education and training, financial coverage, regulations and standards, and specific assistive technology initiatives. Each member state will nominate a focal point who will coordinate data collection in the country between April and June 2021. Results will be reported in the global report on assistive technology, to be presented at the 75th World Health Assembly in 2022. [Source: World Health Organization]

ADDITIONAL INFORMATION:

[WHO launches Progress Indicators to measure access to assistive technology](https://www.who.int/news/item/07-04-2021-who-launches-progress-indicators-to-measure-access-to-assistive-technology)
https://www.who.int/news/item/07-04-2021-who-launches-progress-indicators-to-measure-access-to-assistive-technology

BRAINGATE BRAIN-COMPUTER INTERFACE

March 31, 2021 – Providence, Rhode Island, Brown University and Providence Veterans Affairs Medical Center. Brain-computer interfaces (BCIs) are an upcoming assistive technology that helps people with paralysis type on computers or manipulate prosthetics through thought. For several years, BCIs have required cables to connect the brain to computers that decode the brain's signals to manipulate external devices. Now, for the first time, BrainGate used a wireless BCI with an external wireless transmitter in its clinical trial. The new system can transmit high-resolution brain signals without physically tethering the user to a decoder.

According to a study published in the IEEE Biomedical journal, two clinical trial participants with paralysis used the BrainGate system with a wireless transmitter to point, click, and type on a standard tablet computer. The study showed that the wireless system transmitted signals with the same fidelity as wired systems, and participants achieved similar point-and-click accuracy and typing speeds. The new study allows for many new possibilities. Leigh Hochberg, an engineering professor at Brown, says, "with this system, we're able to look at brain activity, at home, over long periods in a way that was nearly impossible before." The trial participants — a 35-year-old man and a 63-year-old man, both paralyzed by spinal cord injuries — were able to use the system in their homes instead of the lab setting where most BCI research takes place. Unencumbered by cables, the participants could use the BCI continuously for up to 24 hours, giving the researchers long-duration data, including while participants slept. An additional benefit of going wireless was the ability to conduct research during the pandemic.

The new trial is the group's second major advancement. The BrainGate consortium consists of researchers from Brown, Stanford, and Case Western Reserve universities and the Providence Veterans Affairs Medical Center and Massachusetts General Hospital. In 2012, the team published research in which clinical trial participants operated multidimensional robotic prosthetics using a BCI

for the first time in history. Since then, the work has been continually refined, enabling people to type on computers, use tablet apps, and move their limbs.

Following the results of their new trial, Brown has signed a licensing agreement with Blackrock Microsystems to make the device available to neuroscience researchers worldwide. However, according to federal law, the device is still in an investigational stage and limited to investigational use only. [Source: Brown University]

ADDITIONAL INFORMATION:

Researchers demonstrate first human use of high-bandwidth wireless brain-computer interface
https://www.brown.edu/news/2021-03-31/braingate-wireless

'LET'S TALK COMMUNICATION ACCESS' INITIATIVE

March 2021 – In collaboration with the City of Aurora, Colorado's First Responders, the Let's Talk Communication Access Initiative (LTCAI), a 501(c)3 organization, is piloting an Alert Decal Program to alert First Responders that a person they are assisting has communication needs secondary to sensory, motor/physical, behavioral/safety, cognitive/learning, and/or neurological needs. The Alert Decal Program is a two-tiered approach supporting community members with communication needs and First Responders to help them both be prepared and proactive for an emergency.

The goals of the program follow:

1. To support our community members with communication needs secondary to sensory, motor/physical, behavioral/safety, cognitive/learning, and/or neurological needs, be proactive and prepared for an emergency through educational support and guidance to participating in the Alert Decal Pilot Program.
2. To visually alert First Responders that a person they are assisting has communication needs secondary to sensory, motor/physical, behavioral/safety, cognitive/learning, and/or neurological needs may require augmentative/alternative communication (AAC) to help support their ability to express themselves and to support their understanding of language.
3. To provide the educational supports necessary to assist a First Responder's ability to successfully interact with children and adults with communication needs by strengthening their understanding and use of low- and high-tech augmentative/alternative communication supports (AAC).
4. To help First Responders gain confidence in their ability to comfortably interact with a person who uses AAC to support improved outcomes in an emergency.
5. To provide education to increase a First Responder's awareness of interventions/supports they can use to manage the environment to support a person they assist with communication needs.

The Alert Decal Pilot Program has an Advisory Board consisting of community members with communication needs and community partners from a variety of agencies, including the Colorado

Cross-Disability Coalition, Centura Health, Aurora Police Department, Aurora Fire Rescue, Falck EMS, Cherry Creek Public Schools, Aurora Public Schools, Colorado Department of Motor Vehicles, Circles, Ltd., Colorado Department of Human Services, Emergency Medical Services for Children and the Let's Talk Communication Access Initiative.

ADDITIONAL INFORMATION:

[Let's Talk Initiative](www.letstalkinitiative.org)
www.letstalkinitiative.org

AUTISM PROJECT DELIVERS IPADS TO WISCONSIN CHILDREN

March 30, 2021 – Oshkosh Area School District (OASD), Wisconsin. Fourteen students are the proud new owners of iPads, thanks to a partnership between the District and the Oshkosh Mid-Morning Kiwanis Club to provide iPads for children on the autism spectrum. According to a news release from the organizers, iPads can transform a child's ability to interact with the world around them by helping them communicate needs, learn language, practice math, and much more in a setting that is adaptable and accessible for them. "We are so excited for these students and families," stated Claire Habeck, an assistive technology specialist in the Oshkosh Area School District. "Our teaching staff use similar devices to help engage students in the classroom, and having this access while at home is a game-changer for the students and their entire family." Students also received a $100 iTunes gift card and a protective case and shield for their new device. [Source: Alice Reid, NBC 26]

ADDITIONAL INFORMATION:

[Kiwanis Autism Projects brings iPads to Oshkosh students](https://www.nbc26.com/news/local-news/kiwanis-autism-projects-brings-ipads-to-oshkosh-students)
https://www.nbc26.com/news/local-news/kiwanis-autism-projects-brings-ipads-to-oshkosh-students

NEW RESEARCH ON BARRIER-FREE MOBILITY

March 29, 2021 – An accessible and barrier-free vehicle with complementary infrastructure is a commonly cited need across municipal, aging, and healthcare ecosystems. What are the varying and common needs between different customers, and how might people of various abilities interact with these vehicles and infrastructure? The Autonomous Vehicle Alliance (AVA), the Intelligent Transportation Society of America (ITS America), and AARP have released research that for the first time looks at barrier-free mobility beyond just the vehicle. Vehicle accessibility is critical, and an often overlooked aspect of accessibility is the immediate surroundings when individuals enter and exit the vehicle.

The study aimed to allow vehicle manufacturers and infrastructure creators to build a common design language and think of transportation design as a holistic mobility experience. The study included in-depth interviews with key stakeholders and end-users, short surveys, and a literature review that

discussed the potential impact of mobility-on-demand, vehicle automation, road design, and evolving assistive technology in reducing hurdles to mobility. The study also included journey maps detailing how people with varying ability levels (prosthetic limb; white cane; hearing loss; etc.) would navigate trips that include an accessible vehicle.

Although the report did not suggest a specific vehicle type, findings point to a Shuttle Autonomous Vehicle (SAV). Findings suggest applying common functionality and design language to other vehicles in the mobility mix, such as buses and streetcars, would better serve people of all abilities.

The full report is available for download [here](#), on ITS America's website. [Source: Intelligent Transportation Society of America (ITS America), Mass Transit]

ADDITIONAL INFORMATION:

[New research connects vehicle and infrastructure design for barrier-free mobility](https://www.masstransitmag.com/alt-mobility/shared-mobility/press-release/21216157/intelligent-transportation-society-of-america-its-america-new-research-connects-vehicle-and-infrastructure-design-for-barrierfree-mobility)
https://www.masstransitmag.com/alt-mobility/shared-mobility/press-release/21216157/intelligent-transportation-society-of-america-its-america-new-research-connects-vehicle-and-infrastructure-design-for-barrierfree-mobility

SMART HOME DEVICE CONTROLLER FOR SIMULTANEOUS WIRELESS COMMUNICATION

March 22, 2021 – Global sales of smart home devices are projected to reach 1.4 billion units in 2024, a five-year compound annual growth rate of 14%. As IoT expands, engineers and IoT device manufacturers are challenged with maintaining networks that can communicate quickly and effectively as more new devices are added. Qorvo, a leading radio frequency solution provider, introduced the QPG6100, the first smart home communications controller to deliver simultaneous support for multiple ultra-low-power wireless protocols. This enables faster communications, increases home network capacity and scalability, and allows manufacturers to future-proof connected devices such as lighting and smart home sensors. The device also enables simultaneous operation of multiple smart devices, regardless of which major wireless standard they use, eliminating barriers to smart home growth.

Beyond Wi-Fi, low-power, low-data-rate wireless standards like Bluetooth, Low Energy, Thread, and Zigbee are used in smart lighting, thermostats, security sensors, and appliances. Smart home devices communicate over the home network, even if each device uses a different standard or language for its sensors. Qorvo's new device incorporates simultaneous multi-standard support into a single-radio System on a Chip (SoC). It supports all home network protocols, allowing devices to receive communication without interruption during the listening phase continuously. When combined with Qorvo's software development kit, the QPG6100 allows manufacturers to create IoT devices that manage data traffic from multiple standards or protocols simultaneously and without latency. An example application: a consumer can quickly dim a light bulb via a smartphone without delay.

Cees Links, general manager of Qorvo Wireless Connectivity, said, "By simultaneously supporting all major wireless protocols, designers and homeowners are assured seamless connectivity as they add new devices. The increased flexibility will inspire more innovative applications in the smart home." To learn more about ConcurrentConnect technology, watch the [tutorial video](#) or read the [whitepaper.](#) [Source: Qorvo Inc, Intrado, Globe Newswire]

ADDITIONAL INFORMATION:

[Qorvo® Launches First Smart Home Device Controller to Support Simultaneous Wireless Communications](#)

[https://www.globenewswire.com/news-release/2021/03/22/2196845/11142/en/Qorvo-Launches-First-Smart-Home-Device-Controller-to-Support-Simultaneous-Wireless-Communications.html](#)

UT DALLAS COMPETES IN ALEXA COMPETITION, WORKS ON SMALL-TALK

March 22, 2021 – Virtual assistants currently operate based on tasks, but can they be tailored for friendly discussions? Kinjal Basu, a doctoral student in computer science at UT Dallas, set out to answer this question. The UT Dallas team, along with eight others, is competing in the fourth annual Alexa Prize Socialbot Grand Challenge to advance conversational artificial intelligence (AI). The winning team will receive a $500,000 prize and a potential $1 million research grant to the students' university. The UT Dallas team is a finalist in the challenge and has already received a $250,000 research grant and technical resources. By creating conversational AI, Alexa could help people experiencing anxiety or depression and provide greater accessibility for assistive tech and language translation.

The team is hoping to earn a composite score of at least 4 out of 5 possible points. The judges also need the socialbot to be coherent and engaging for 20 minutes in at least two-thirds of their conversations in the final round. According to Basu, his team's focus is to develop automated commonsense reasoning for Alexa. Like a human, UT Dallas' social bot needs to learn how to fill in gaps in conversation, make inferences, and understand exceptions to rules using natural language processing and machine learning.

Anyone can try out one of the nine teams' socialbots now by telling Amazon's AI, "Alexa, let's chat." The user won't know which university's socialbot they have. [Source: Dallas Innovates]

ADDITIONAL INFORMATION:

[Alexa, Let's Chat: UT Dallas Is Part of a $500K Global Competition To Teach Amazon's AI How To Make Small Talk](#)

[https://dallasinnovates.com/alexa-lets-chat-ut-dallas-is-part-of-a-500k-global-competition-to-teach-amazons-ai-how-to-make-small-talk/](#)

CAPTIONED TELEPHONE SERVICE FOR VETERANS AND DIFFERENTLY ABLED

March 19, 2021 – Veterans are disproportionately affected by hearing loss and are 30% more likely than non-Veterans to have a hearing disability. Veterans and others with hearing loss can receive free assistive technology for captioned telephone service on their home phones, mobile phones, and other communication apps. Providers offering this service include Caption Call, Caption Mate, Clear Captions, and Sprint, among others. The technology is free for service members and Veterans, including their loved ones and anyone with hearing loss.

Captioned telephone service displays people's responses on a phone call in real-time, as transcriptions appear directly on the telephone or an app. The technology uses a combination of automatic speech recognition (ASR) technology and skilled transcribers. ASR is the same technology that systems like Alexa and Siri use to translate voice commands.

When registering for this service with providers, the FCC requires individuals to self-certify that they have hearing loss necessitating telephone captioning. Thus, providers may require professional certification from a physician, audiologist, or other hearing-health professional. [Source: Kiran Dhillon, U.S. Department of Veterans Affairs]

ADDITIONAL INFORMATION:
Free captioned telephone service for those with hearing loss
https://blogs.va.gov/VAntage/86214/free-captioned-telephone-service-veterans-loved-ones-hearing-loss/

ROBOTIC PET COMPANIONS

March 19, 2021 – Staff members at Monroe City Senior Nutrition Center are looking forward to a pilot program with robotic cats and dogs designed to offer companionship for seniors and adults with disabilities. The foster program is open to seniors and individuals with disabilities who live independently in Monroe, Marion, and Ralls counties. Diana Hendrix, executive director at the Monroe City Senior Nutrition Center, said the site is set to receive ten pets, and they've received ten applications so far.

The Joy For All Companion Pet program was launched through a partnership with Miranda Schultz, research assistant at the University of Missouri-Kansas City, and David Baker, with Missouri Assistive Technologies in Blue Springs, Mo. Each pet has sensors, so the robots purr or bark when their foster parent rubs their ears, pets their back, or walks by. They also have a mute button, in case the responses get to be a bit too much.

When a person brings their new robotic pet home, they will complete a five-week "foster" period and participate in weekly check-ins on how the program is going. Each person also completes a pre-and post-adoption questionnaire, and they have the option of keeping the pet at that time.

The pandemic has brought isolation and loneliness for many seniors in the area. Hendrix and fellow staff members are hopeful the program will help alleviate loneliness and "bring some sunshine in their lives." Mehrer is eager to invite seniors to the center to have an adoption party when the pets arrive. More information is available via contacting the Monroe City Senior Nutrition Center at 573-735-2131. [Source: Trevor McDonald, Courier Post]

ADDITIONAL INFORMATION:
[Monroe City Senior Nutrition Center starting robotic pet pilot program](https://www.hannibal.net/news/local/monroe-city-senior-nutrition-center-starting-robotic-pet-pilot-program/article_082ba596-d8ac-5526-8cfd-d0570f51d83b.html?utm_medium=social&utm_source=twitter&utm_campaign=user-share)
https://www.hannibal.net/news/local/monroe-city-senior-nutrition-center-starting-robotic-pet-pilot-program/article_082ba596-d8ac-5526-8cfd-d0570f51d83b.html?utm_medium=social&utm_source=twitter&utm_campaign=user-share

ASSISTIVE TECH IMPROVES SOCIAL CARE OUTCOMES

March 19, 2021 – HAS Technology, specializing in social care technology, launched a whitepaper highlighting the benefits of digital innovation in supporting people throughout their care pathway. The paper explores how technology-enabled care (TEC) solutions prevent trips to the hospital and keep people safe and independent at home. It highlights real-world examples of how technology supports service management for the social care workforce and ultimately improves individuals' quality of life and outcomes.

According to HAS Technology, anecdotal feedback from professionals and industry observers suggest that most people prefer to be cared for in their own homes. Jason Harries, MD at HAS Technology, said: "Our white paper looks at how the adoption of technology and digital transformation can put individuals at the heart of care delivery. The inspirational user stories and case studies featured in the white paper highlight what is already being achieved around the country."

The pandemic accelerated the adoption of new technology across the social care sector. HAS Technology has been working with Cardiff Council to distribute wearable technology to residents to reduce falls. They developed ARMED -- Advanced Risk Modelling for Early Detection. According to HAS, "Cardiff use the app on their desktop each morning to check the participants' sleep and activity data. When risk flags are raised that indicate an adverse reading, contact is made with the participant, their family, or Allied Health Professional (AHP) colleagues to ensure the necessary steps are taken to prevent a fall from happening. The scheme is now being rolled out further." ARMED has improved sleep patterns amongst people with intellectual disabilities and reduced pressure on night-time support services through predictive analytics.

The paper also looks at how HAS has been using predictive TEC solutions to improve support for individuals with intellectual disabilities. In addition, the company's digital care management

technology enables care delivery to be organized and delivered in line with the service user's needs and wishes.

Nicola Jones, Project Officer, said, "The CM solution has allowed us to be more responsive to service user needs, and we use the competency levels and skills for matching the right support worker to each visit [...], and we are proud of the difference this is making." [Source: Sarah Sarsby, AT Today]

ADDITIONAL INFORMATION:
New whitepaper explores how adoption of assistive tech can help social care sector
http://attoday.co.uk/new-whitepaper-explores-how-adoption-of-assistive-tech-can-help-social-care-sector/

NEW TOOL LESSENS BIAS IN LIVE TV BROADCASTS

March 18, 2021 – Syed Billah and his team of researchers from Penn State's College of Information Sciences and Technology have developed an interactive tool called Screen-Balancer. The tool is designed to assist media producers in balancing the presence of different "phenotypes," or an individual's observable physical traits in live telecasts. Syed says, "I work in accessible computing. As part of my research, we design assistive technologies for people with special needs and/or people with special situations to promote equality."

Unlike pre-recorded shows, live TV broadcast producers need to make split-second decisions that reflect what appears on air. There is no post-production phase in which choices can be changed or refined, and seemingly small decisions could lead to unconscious bias in the show's content.

The Screen-Balancer interface is modeled after a switcher, a large multi-monitor control panel used by a producer to select which shots will appear on-air in real-time. The tool uses facial recognition and computer vision algorithms to detect the number of males or females or individuals with different skin tones on each camera feed. When using Screen-Balancer, producers reduced screen time between male and female actors by 43% and that of light-complexion and dark-complexion actors by 44%.

Billah says, "Before Screen-Balancer, there was no such tool. It was all ad hoc; producers have had to balance the screen times of different actors in their head, which is not easy." [Source: Jessica Hallman, Penn State News]

ADDITIONAL INFORMATION:
New tool could help lessen bias in live television broadcasts
https://news.psu.edu/story/651278/2021/03/18/research/new-tool-could-help-lessen-bias-live-television-broadcasts#.YFTsxgw9iaw.twitter

ACCESSIBLE WAYFINDING TECH FOR INDOOR SPACES

March 17, 2021 – Israel-based startup RightHear hopes to leverage its knowledge of regulatory trends in its mission to make indoor spaces easier for people who are blind to navigate. RightHear pairs a smartphone app with strategically placed Bluetooth beacons to provide detailed and customizable audio wayfinding for all sorts of indoor environments. The startup, led by entrepreneurs Idan Meir and Gil Elgrably, was awarded the Best Bootstrapped Startup of 2020 by Geektime magazine. RightHear already has tie-ins with McDonald's Israel, Aroma Espresso, and Shufersal (Israel's largest supermarket chain), and its technology is currently embedded in nearly 2000 locations worldwide. The key advantage of the RightHear solution is the granular nature of the orientation assistance provided.

Once inside an accessible spot-enabled indoor environment, the user points their phone in any direction to have information spoken aloud to them about the facilities and spaces corresponding to that particular direction. The venue owner can strategically place the sensors so that safety-critical information like announcing a stairway with the wording "three steps ahead" can be supplied alongside audible signposting to important landmarks in the environment as the service counter and seating area at a fast-food restaurant. Co-founders Meir and Elgrably understood integrating Bluetooth beacons and smartphones through an earlier venture involving the activation of digital shopping coupons in retail outlets.

Meir says, "In Israel, there is already regulation necessitating talking signs for visually impaired people in public spaces. We firmly believe that in a few years from now, possibly by 2025, audible wayfinding systems will be so ubiquitous that they will start to become as common as ramps for wheelchairs." Social distancing requirements made receiving guided tactile assistance taboo, and many organizations only signposted safety-critical information such as areas and spacing for queuing with visual indicators. Meir fully believes it's high time that provisions for negotiating public spaces move into the 21st century. "When a blind person wants to go to a store in the mall or a university class or visit the doctor, the most efficient way to do it is to go with a sighted person, and this is just absurd," he says.

RightHear is committed to keeping the customer onboarding process as simple and affordable as possible. A small restaurant can achieve full plug-and-play audible wayfinding accessibility within 24 hours for as little as $50 per month. Reportedly, the Bluetooth sensors can often easily be installed by the venue owners themselves. RightHear also offers its customers tutorials on how to write optimal orientation guidance based on the internationally recognized Wayfinder communications standard.

RightHear's business model towards pushing the costs out to the venue owners, not, as some other access companies seek to do, to the 40 million people around the world living with blindness. Meir insists that RightHear is a "100% free solution for our users. It always has been and always will be." [Source: Gus Alexiou, Forbes]

RightHear Orientation App For The Blind – A Future Echo For Accessible Indoor Spaces
https://www.forbes.com/sites/gusalexiou/2021/03/17/righthear-orientation-app-for-the-blind--a-future-echo-for-accessible-indoor-spaces/?sh=58e183103b18

STARBUCKS' NEW SERVICE TO HELP CUSTOMERS WHO ARE BLIND AND LOW VISION

March 16, 2021 – Starbucks now offers complimentary access to Aira, a service that connects people who are blind and low vision, to trained, remotely located visual interpreters who provide instant access to visual information through a third-party app. Through Aira, a customer can ask the remote agent to describe everything from the storefront entrance to the order line and counter, and they will read the menu and describe different options. Starbucks is the first food and beverage company to offer the visual interpreter service. The chain will also roll out new large-print and Braille menus in all U.S. and Canada stores this summer, developed in partnership with National Braille Press. The company's app and website have also been updated with enhanced accessibility.

Last year, Starbucks worked to improve the Starbucks accessibility experience for both employees and customers — evaluating research and feedback from the World Institute on Disability to ensure their team collected data from users with a wide range of disabilities. The company has opened six signing stores globally, including in Washington, D.C. The company said, "serves a prominent community of Deaf and hard of hearing people. These stores create career opportunities for Deaf and hard of hearing partners (employees) and offer a distinctive retail experience for the Deaf and hard of hearing community," according to Starbucks. [Source: Kelly McCarthy, My Central Oregon]

ADDITIONAL INFORMATION:
Starbucks' new technology service helps blind and low-vision customers
https://www.mycentraloregon.com/2021/03/16/starbucks-new-technology-service-helps-blind-and-low-vision-customers/

SMART HOME DEVICE HELPS POWER WHEELCHAIR USERS WITH NAVIGATION

March 16, 2021 – Barry Dean is a Grammy-nominated songwriter based in Nashville and was introduced to wheelchairs when his daughter, Katherine, who was born 16 weeks early, was diagnosed with cerebral palsy. This led him to build LUCI, a company that created a smart device that adds extra safety to a power wheelchair. "I'm a dad, really," said Dean. "We purchased her first chair when she was very young. There's this big chair with this tiny little girl, and the speed hadn't been set properly. So she took off down the hall, and the assistive technology professional jumped and grabbed the little rail in the back—and bang—it went right into the wall. She was fine, but it was really scary. I parked that chair in the garage for at least a year."

Although Dean's daughter is now an adult, Dean still sought safety and didn't find anything suitable on the market. He and his brother, Jered Dean, a systems engineer with extensive experience in things from dialysis machines to aerospace, built LUCI from scratch. They assembled a team of programmers, roboticists, engineers, and designers to build the product. "We ended up inventing our own millimeter-wave radar, which is the new cutting-edge type of radar," Dean said. "We created custom and proprietary ultrasonics because normal ultrasonics weren't going to work in this environment." According to Dean, car-based safety systems can use stripes on the road and digital maps to keep drivers safe. But power chair users operate on sidewalks and inside buildings, where those environmental cues aren't available. Thus, LUCI includes Intel RealSense cameras in its suite of tools to help prevent tipping, collisions, and sudden drop-offs.

The company launched June 2020 and has announced distribution deals with Numotion, Permobil, and National Seating and Mobility. According to Dean, the company is in talks with all the major wheelchair manufacturers and distributors to ensure the device can be included on as many chairs as possible. He also said there are dreams of expanding further into the mobility market with a LUCI option for scooters. For now, the brothers are focused on their initial mission to make power wheelchairs safer and more inclusive. [Source: Kristin Easterling, Home Care]

ADDITIONAL INFORMATION:

Meet LUCI: A New Smart Device Helping Power Wheelchair Users Navigate With Safety & Confidence
https://www.homecaremag.com/march-2021/meet-luci-smart-device-power-wheelchair

YOUNG INDIAN PROFESSIONALS WORK ON ASSISTIVE TECH TO MAKE STEM INCLUSIVE

March 12, 2021 – Bengaluru, India. In India, students with disabilities have had to fight for access to higher education in STEM with little success. Yet, their efforts have led to new products and awareness, positioning India as a world-leader in the assistive technology space. In 2013, the IIT Council and the Central Board for Secondary Education (CBSE) denied Kartik Sawhney, the first person who is blind to study in the science and mathematics stream in grades 11 and 12 in India, the permission to take the IIT Joint Entrance Examination (a prestigious Indian educational entrance exam, akin to the SAT) due to his lack of sight. In 2019, Sawhney co-founded I-STEM, an organization aiming to provide "equal access to information, resources, and opportunities" for people with disabilities.

Similarly, Vidhya Y. was the first student with a visual disability from Karnataka to pursue mathematics in grades 11 and 12. She, like Sawhney, was unable to pursue her dream and was forced to take commerce after tenth grade due to the "practical nature of science," she said in an interview. Unswayed, she pursued mathematics in commerce, studying by listening to audio recordings of lectures. When she applied for multiple jobs after her postgraduate education, she was rejected. So she co-founded Vision Empower to help children access education. She leads work to create and

distribute accessible content (digital material, tactile diagrams, and models), educate students, and train teachers. Vembi Technologies, the for-profit arm of her company, has developed a Braille book-reader called 'HEXIS' that allows people to download and access content from online platforms. Another project is the audio charts project, started by Sukriti Chadha after graduating with her electrical engineering and finance degree. She started working on accessibility five years ago when her father lost sight in one of his eyes. She was a developer at Yahoo Finance at the time."[Visualizing charts] was an important issue because many of the platform's users were older, loyal customers who are likely to have vision problems with age," Chadha said. She found a reasonable solution using tones and haptics to communicate the information displayed in charts. The scope of the application she developed is currently limited to finance, but Chadha hopes it can be expanded to other areas like education.

The Indian government launched an accessibility campaign in 2014 and has strengthened its support for assistive technologies through grants, competitions, schemes, and partnerships with corporations. Chadha is now involved in designing guidelines for accessible mobile and web applications as part of a working group within the World Wide Web Consortium and Mozilla's MDN product advisory board. Vidhya, too, is involved in advocacy for policies by the government to use accessible technologies in education. According to Chadha, building a product or service to solve one user's needs is relatively quick, but "Thinking about policy is much broader and multi-faceted, in that it takes years to come up with a widely applicable guideline, take into account perspectives from academia, industry and government bodies to solve systemic issues." [Source: Joel P. Joseph, Science, The Wire]

ADDITIONAL INFORMATION:
What Assistive Technologies Can Do To Make STEM More Inclusive
https://science.thewire.in/the-sciences/what-assistive-technologies-can-do-to-make-stem-more-inclusive/

TV CONTROL WITH EYES FOR PEOPLE WITH MOTOR DISABILITIES

March 11, 2021 – Cox launched a new feature that empowers people with disabilities to control their television with their eyes. The Accessible Web Remote for Contour gives those who have lost fine motor skills, for example, from degenerative conditions or paralysis, the ability to browse the video guide with their eyes. A free web-based remote control is navigable using various assistive technologies that customers may own, such as eye gaze hardware software, switch controls, and sip-and-puff systems, which the user controls by gently blowing into a tube. Cox's eye-tracking technology gives people living with conditions like paraplegia, Parkinson's disease, and amyotrophic lateral sclerosis (ALS) equitable access to television. Customers can visit https://webremote.cox.com to sync their device and begin changing channels, set a recording, search for programming within the Contour

guide, and access integrated streaming apps using their eyes. [Source: Cox Communications, Cision, PR Newswire]

ADDITIONAL INFORMATION:

[Cox Enables Customers with Physical Disabilities to Control Contour Video Guide with Eyes](https://www.prnewswire.com/news-releases/cox-enables-customers-with-physical-disabilities-to-control-contour-video-guide-with-eyes-301245564.html)
https://www.prnewswire.com/news-releases/cox-enables-customers-with-physical-disabilities-to-control-contour-video-guide-with-eyes-301245564.html

UBISOFT USES YOUTUBE AUDIO FEATURE FOR ACCESSIBLE TRAILERS

March 6, 2021 – In 2020, YouTube released an audio track feature in beta for a small number of creators, including game publisher Ubisoft, which saw audio tracks as an opportunity to improve the accessibility of its game trailers. The world of video game trailers and promotional videos has lagged in this area, causing accessibility issues for many users. YouTube is the main platform for distributing these marketing videos. Last year, Ubisoft used YouTube's new audio track feature and teamed up with audio description company Descriptive Video Works to create a story trailer for Assassin's Creed Valhalla. Brittney Reignier, Associate Director of Content Marketing at Ubisoft, says, "Instead of posting the original trailer separate from an audio-described version, we can now post one trailer, and the user can select which version best suits their needs." She adds, "We [Ubisoft] had been in talks with YouTube around potential solutions to our goal of maximizing viewership of our assets where we have localized versions with language variations."

Ubisoft has demonstrated that the audio feature can bring huge benefits. However, YouTube's feature relies heavily on creators like Ubisoft to source the audio track, and audio descriptions can't be auto-generated. [Source: Ben Bayliss, Techradar]

ADDITIONAL INFORMATION:

[How YouTube's new audio feature is helping Ubisoft make its trailers more accessible](https://www.techradar.com/news/how-youtubes-new-audio-feature-is-helping-ubisoft-make-its-trailers-more-accessible)
https://www.techradar.com/news/how-youtubes-new-audio-feature-is-helping-ubisoft-make-its-trailers-more-accessible

UPCOMING EVENTS

NATIONAL DISABILITY RIGHTS NETWORK ANNUAL CONFERENCE

The National Disability Rights Network (NDRN) will be hosting its annual conference virtually this year. This conference includes intensive training sessions, workshops, and networking opportunities. This year, the virtual conference will be hosted over the course of three weeks: May 17-21, May 24 – 28, and June 7-11, 2021. There will be more than 115 sessions and institutes present throughout the

duration of the conference. The NDRN will still offer continuing education credits for many of their sessions. [Source: The National Disability Rights Network].

ADDITIONAL INFORMATION:

NDRN Conference Page

https://www.ndrnevents.org/profile/web/index.cfm?PKwebID=0x44668fb0&varPage=home

NATURAL HAZARDS RESEARCH WORKSHOP

The Natural Hazards Center will virtually host the 2021 Natural Hazards Research and Application Workshop from July 11-14. This year marks the 46th annual workshop and will be organized around the theme, *The Hazards and Disaster Workforce: Preparing to Meet 21st Century Challenges*. This workshop will focus on how the existing workforce can help develop a demographically diverse and highly skilled future workforce. The annual Researchers Meeting will follow the annual workshop on July 14-15. Researchers and scholars who anticipate attending either the Natural Hazards Research and Application workshop or Researchers Meeting will soon be able to register, so save the dates.

ADDITIONAL INFORMATION:

2021 Virtual Natural Hazards Workshop

https://hazards.colorado.edu/workshop/2021/save-the-dates?utm_source=NHC+Master+List&utm_campaign=043cdc8e66-CallforContributions_2019_COPY_02&utm_medium=email&utm_term=0_dabc309806-043cdc8e66-54424325

ASSISTIVE TECHNOLOGY CONFERENCE OF THE NEW ENGLAND REGION (USA)

The COVID-19 pandemic has led to the Assistive Technology Conference of New England (ATCNE) to take a virtual format from November 2020 – May 2021. In May, ATCNE is hosting exhibitor presentation week, and registration is free. The upcoming session for this quarter include:

- AAC technology products and devices exhibition (May 17th)
- Reading & Writing technology products and devices exhibition (May 18th)
- Cognition & Learning technology products and devices exhibition (May 19th)
- Blind & Low Vision technology products and devices exhibition (May 20th)

ADDITIONAL INFORMATION:

The AT Conference of New England

https://www.assistivetechnologyconference.com/2020-presentations/

https://www.assistivetechnologyconference.com/exhibitor-presentations/

SUBSCRIBE TO NEWSLETTER

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, user experiences, and expectations 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 Salimah LaForce [salimah@cacp.gatech.edu], Dara Bright [dara.bright@cacp.gatech.edu], or Anushri Kumar [anushrik@gatech.edu]. If you wish to update your email address, send an email to salimah@cacp.gatech.edu.

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