



Cara Idol

My name is Cara Idol. I am the Instructional Designer of Accessibility and Universal Design in eLearning and an instructor of Multimedia and Teaching and Learning online at Arapahoe Community College. I have an AA in music and a BFA in studio arts, and I will begin work on a master's degree in the fall. I am passionate about my family, pets, animal rights, civil rights, music, art, health care, and education. Oh, and laughing!

Digital Accessibility as Curriculum

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If there are graduate or undergraduate programs or college courses for digital accessibility, I have not found one. My place of employment, Arapahoe Community College (ACC), offers a class MGD 1041, Web Design One, where the extent of the digital accessibility curriculum is wanting. The Colorado Community Colleges Common Courses Standard (CCCS) outcomes regarding digital accessibility (say that three times fast) that the schools must meet under the CCCS outcome are:

- ***Page layout/page design***
 - ***Usability***
 - ***Accessibility***
 - ***World Wide Web Consortium (W3C) compliance***
- ***Site functionally***
 - ***Principles of Americans with Disabilities Act (ADA) Standards for Accessible Design***

The instructor for Arapahoe Community College's MGD 1041 asynchronous course meets these criteria, with three lecture slides and links to the [World Wide Web Consortium \(W3C\)](#).

However, there are no activities or assessments given regarding digital accessibility. Other than some HTML coding, which includes accessible attributes.

I recently asked students in my multimedia class what they knew about digital accessibility. They were familiar with the concept but unaware of its applications.

Those who seek a robust education in digital accessibility must hunt for opportunities. We must look for and become members of communities devoted to accessibility, such as the [International Association of Accessibility Professionals \(IAAP\)](#).

A11y & POUR

In ACC's MGD 1041, the instructor does not mention a11y. Yet, a11y is a crucial term, concept, and movement in web designing and programming. A11y is an acronym for "accessibility." The 11 is the number of letters in the word accessibility (The A11Y Project, n.d.).

POUR is an acronym for four high-level principles that describe functional accessibility. Accessible technology is Perceivable, Operable, Understandable, and Robust. We can achieve the most accessibility by applying the POUR principles. POUR is at the heart of a11y (World Wide Web Consortium, n.d.).

Perceivable

We must present information and elements of the user interface in a way that can be perceived by the senses so that nothing is undetectable or invisible. Web usability is based primarily on visuals, but sound and touch are used instead for those unable to take visual cues.

Operable

The interactive elements, such as controls, buttons, and navigation, should be operated physically by clicking, touching, swiping, and rolling. Alternatively, we should provide voice commands or assistive devices like head wands and eye trackers.

Understandable

Technology should be presented and used clearly and consistently, with predictable patterns of use and design. The end-user should understand the meaning and purpose of the information presented in the content while understanding the user flow and interaction of the interface.

Robust

Content must be robust to work reliably with various technologies, including assistive devices.

What is Accessibility

Accessibility refers to designing devices, products, and environments to remove barriers (Henry et al., 2014).



Accessibility is the “ability to access” and benefit from some system or entity. The concept focuses on enabling access for people with disabilities or enabling access through assistive technology; however, research and development in accessibility benefit everyone (Holmes, K., 2018).

Accessibility goes hand in hand with universal design, creating products usable by people with the broadest possible range of abilities, operating within the broadest possible range of situations (Holmes, K., 2018). But, again, this is about making things accessible to everyone, whether they have a disability or not (Holmes, K., 2018).

Examples of Accessibility and Universal Design:

- ***Ramps as an alternative way of accessing a staircase***
- ***Braille on room signs and elevators***
- ***Flat light switch (Can be operated with one hand, without tight grasping, pinching, or twisting.)***

What is Digital Accessibility

“Digital accessibility refers to the inclusive practice of removing barriers that prevent interaction with, or access to websites, digital tools, and technologies, by people with disabilities” (Georgetown Law, n.d., para. 1).



Technology and the internet are essential to modern daily life; we must design digital content to be understood by the broadest possible audience (The A11Y Project, n.d.).

Digital content includes (but is not limited to)

- ***Electronic documents***
- ***Websites***
- ***Software and hardware***

- **Video and audio**

Societal Benefits



Society has benefited from accessibility. As a result, much of the invented assistive technology has become staples in most of our lives.

The typewriter was a complete game-changer for most cultures. The first version of a typewriter was the Hansen Writing Ball. The inventor, Mr. Malling-Hansen, the Principal at the Danish Royal Institute for the Deaf, invented it as a communication device for his students (Steenhout, 2010).

Telephone and texting

“In an 1894 address in Boston, inventor Alexander Graham Bell told a crowd at the Horace Mann School for the Deaf that his telephone “was a failure...[as] it did not enable the deaf to see speech as others hear it” as he had originally intended” (5 Pieces of Tech That Changed the World, n.d., para. 5).

While the telephone initially only benefited the hearing community, inventions have expanded the depth of phone accessibility since then. For example, in 1964, scientist Robert Weitbrecht invented the teletypewriter (TTY) that transmitted typed messages via the phone (5 Pieces of Tech That Changed the World, n.d.)

Today's smartphones have text messaging and include video capability to allow for signed communication—finally enabling people with little to no hearing to “see speech” as Bell initially intended for his famous invention (5 Pieces of Tech That Changed the World, n.d.).

Digital INCLUSION and UDL

“Accessibility is important. Inclusion is essential” (The A11Y Project, n.d., para. 5).



Both Digital Accessibility and Universal Design for Learning (UDL) focus on inclusive educational practices. Ensuring all students (including those with disabilities) have access to content while providing multiple options to acquire information is key to student success (Holmes, 2018).

According to the **Higher Education Opportunity Act of 2008 (HEOA)**, UDL:

- 1. Provides flexibility in presenting information, how students respond to or demonstrate knowledge and skills, and how students are engaged.*
- 2. Reduces barriers in instruction, provides appropriate accommodations, supports, and challenges, and maintains high achievement expectations for all students, including students with disabilities and students with limited English proficiency.*

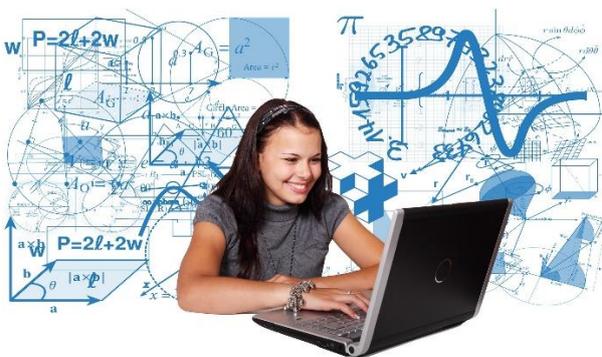
Lawsuits Create Jobs



Digital accessibility lawsuits increase each year, as are digital accessibility jobs. For example, Americans with Disabilities litigators across the U.S. filed about 15% more digital accessibility lawsuits than in 2020—equating to more than ten lawsuits per day (Mcelaney, 2022).

In 2021, most website accessibility lawsuits specifically cited Web Content Accessibility Guidelines (WCAG) success criteria to highlight the impact of accessibility barriers. The bad news: 97.4% of the top one million web pages on the internet have detectable WCAG 2.0 failures, per an analysis from the non-profit Web Accessibility In Mind ([WebAIM](#)) (Mcelaney, 2022).

Digital Accessibility Career Opportunities



With accessibility knowledge and practices continually rising, students with an intricate understanding of digital accessibility,

section 508, and ADA compliance increase graduates' marketability and salary potential. Glassdoor recruiter website reports that the U.S. median salary for an accessibility programmer is \$138K (2021). Furthermore, Comparably, a comparison website states that in Denver, Colorado, United States (where I reside), the average accessibility tester salary is \$141K, compared to the United States average of \$105K (n.d.).

The number of job listings with "accessibility" in the title grew 78% in the year ended in July from the previous 12 months, LinkedIn said in response to a data request from The Wall Street Journal (Alcántara, 2021). According to the professional networking site owned by Microsoft Corp, such listings had risen 38% between August 2019 and July 2020 compared with the previous year (Alcántara, 2021). As of January 27, 2022, ZipRecruiter had nearly 45,000 positions referencing web accessibility. In addition, LinkedIn had over 3,100 jobs for web accessibility personnel (Alcántara, 2021). The need for employment in digital accessibility continues to increase (Alcántara, 2021).

The A11Y Project, (n.d.) a community-driven effort to make digital accessibility easier, states, "Accessibility work is often done after the fact to great expense. Inclusivity asks people making digital experiences to consider early what barriers and biases might keep people from being present and what they can do about it" (para. 6). There is vast career potential in creating new accessible websites and remediating ones that are not.

Real World Instance



Ron Smith is an online banking IT Scrum Master for U.S Bank and lives in Colorado, United States. For the past year and a half, a large part of his focus has been on a11y.

Ron states that his team was initially made aware of a11y about two years ago and became a priority six months later. “Suddenly, they started saying, you need to develop a remediation plan and give us progress reports, use these tools and do all this testing,” stated Ron.

Ron continued, “I don’t think there were threats of lawsuits. But I do think that there was probably awareness of the potential. Maybe there were lawsuits in the industry that got somebody’s attention at other institutions that made us take notice.”

With U.S. Bank having such a gargantuan employee roster, Ron is unaware of all the job positions and the corresponding responsibilities. Ron stated, “I don’t know if that’s their full-time job. But there are a couple [of] people that [it] seems to be, and people from our user experience department play a big role in a11y because it falls into the user experience umbrella.”

Degrees that contain a11y curriculum are essential because there are not enough professional development opportunities. The training Ron and his team received are minimal at best. "When it first became a big priority, [U.S. Bank] gave us access to Deque University. But that was it."

Conclusion

We are doing a disservice to our students (and society) by not providing comprehensive education on ADA, Section 508, a11y, WCAG, and POUR. Overall, individuals who already have a career in web design are familiar with digital accessibility and are becoming increasingly so. Therefore, to ensure our students are equipped and valuable, we must ensure they have digital accessibility expertise.

We can increase our students' career opportunities and salary potential and enjoy a creative career positively affecting society. Let's give them the skills to do so.

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