You're Not Welcome Here: What Foregoing Digital Accessibility Expresses to Your Users

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Not long ago the Fuse design team was discussing what our favorite brand and style of keyboard and mouse are. We dove into discussions of ergonomics, ease of transport, Bluetooth connectivity, and other equally mundane but necessary aspects of tools we use every day to do great things. This got me really thinking about other everyday items we've come to gain preferences for – the height of our desk and chair, how far forward we put the seats in the car, how we organize the apps on our phone, what we bookmark on our browsers, etc. We've come to expect personalization of our environment and tools because everyone thinks and works differently, this is where we want to embrace - and be embraced by - DE&I.

What is DE&I?

What even is "Diversity, Equity, and Inclusion"? Cardinal Health presents the following definitions:
- Diversity - Any difference between individuals and groups
- Equity - Focuses on the specific access gap to enable success for all individuals
- Inclusion - A culture that values the unique perspectives and contributions of all employees

When we talk about a culture that facilitates DE&I, we're looking at personal differences, access gaps, and validity of perspective for an individual. We create an environment where a person can both speak up and be heard, enabling others to have a more rounded perspective and make better decisions with more information. In essence, we are saying to all our employees "You are welcome here." You, your perspective, your baggage, your everything is welcome in this place.

The Rise of DE&I Efforts

In recent years we have seen a rise in Diversity, Equity, and Inclusion efforts across a multitude of industries. Cardinal Health itself notes that "We believe that leveraging the power of diversity, equity and inclusion gives us a competitive business advantage." This claim is supported by data from McKinsey & Company which suggests that companies in the top quartile of racial and ethnic diversity are 35% more likely to have financial returns above their respective national industry medians.[1]

Another pattern we are seeing is the rise of digital accessibility in products that are considered Software as a Service. Digital accessibility is the inclusive practice of ensuring that everyone has equal access to information, functionality, and experience on

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[1] *Sundiatu Dixon-Fyle et al., "Diversity Wins: How Inclusion Matters," McKinsey & Company (McKinsey & Company, December 9, 2022), https://www.mckinsey.com/featured-insights/diversity-and-inclusion/diversity-wins-how-inclusion-matters.*

digital platforms. That means no barriers prevent interaction with, or access to, digital products by people with any type of disabilities or traits commonly linked to disabilities.[2] Accessibility compliance is typically measured using the Web Content Accessibility Guidelines (WCAG) provided by the World Wide Web Consortium (W3C).

A popular motivator in recent years has been fear of litigation. According to Seyfarth Shae LLP, ADA Title III website accessibility lawsuits filed in Federal Court have risen 255% between 2017 and 2021 – with a 14% rise just between 2020 and 2021.[3] Fortunately, it's not all bad, the 2022 State of Digital Accessibility Report provided by Level Access notes that, of the top three reasons why an organization is addressing accessibility, complying with laws comes third after 'Including people with disabilities' and 'providing the best user experience for all users'.[4] Clearly there is good intention but not everybody knows the nuances of discussing digital accessibility so let's dig in a bit more.

What is a Disability?

A disability is any condition of the body or mind that makes it more difficult for the person with the condition to do certain activities and interact with the world around them. One out of every four adults in the United States has some type of disability.[5]

Typically, the word "disabled" comes with our own mental construct of physical disabilities that are outwardly visible. There are many forms that disabilities come in and are worth noting.
- Permanent – Irreversible damage to part of a person which impedes the ability to complete a task
- Temporary – Reversible or acute damage to part of a person which impedes the ability to complete a task
- Situational – Environmental surroundings that impede the ability to complete a task

Some examples are listed in the chart below.

	Permanent	Temporary	Situational
Physical Disability	One arm	Broken arm	Holding a child
Visual Disability	(Color) Blind or Low Vision	Cataracts	A fast-paced environment
Auditory Disability	Deaf	Ear Infection	Not Having Headphones
Speech Disability	Non-Verbal	Laryngitis	A Loud Environment

[2] Byrne-Haber, Sheri. Giving a Damn about Accessibility. Edited by Fabricio Teixeira and Caio Braga. Accessibility Handbook. San Francisco, CA: UX Collective , 2004. https://www.accessibility.uxdesign.cc/.

[3] LLP, Seyfarth Shaw. "Federal Website Accessibility Lawsuits Increased in 2021 despite Mid-Year Pandemic Lull." ADA Title III, March 21, 2022. https://www.adatitleiii.com/2022/03/federal-website-accessibility-lawsuits-increased-in-2021-despite-mid-year-pandemic-lull/.

[4] https://www.levelaccess.com/wp-content/uploads/pdf/2022-State-of-Digital-Accessibility-Report.pdf

[5] Disability Impacts ALL of US. October 28, 2022. Disability Impacts All of Us Infographic | CDC. https://www.cdc.gov/ncbddd/disabilityandhealth/infographic-disability-impacts-all.html.

	Permanent	Temporary	Situational
Cognitive Disability	Short Term Memory Loss	Acute Anxiety	Multi-Tasking

How your SaaS product expresses "You Are Not Welcome Here"

Without focusing DE&I efforts outward, toward the SaaS products provided by a company, how might we be telling our users/customers that they are not welcome in our products? Try experiencing some of these limitations for yourself to better identify gaps in your products.

Keyboard Access Limitations

"You're not welcome here unless you have full control of all your fingers."

> **Try working without using a keyboard.**
> Go to your product page and click the tab button. Do you know where your keyboard focus is at all times? Does the focus show up in the right order? Are you able to complete a simple task just using the keyboard?

Many of us have experienced improvements to our own workflow being able to use a keyboard to accomplish tasks that can be performed by using a mouse. For some customers, using a mouse is not an option. The necessity of the keyboard—due to the inability to see what's on screen—makes keyboard accessibility a must. Additionally, screen reading technology is only as good as the code it is reading. Lack of sufficient digital accessibility may mean being able to *focus* on an element but not *interpret* it.

Size of Clickable Elements
As many of you have probably experienced, the default size for web elements may not always be what we need. The U.S. General Services Administration suggests clickable elements have a touch target size of 44px – this is equivalent to 10mm, the same size as the average adult finger pad. When you think about using a mouse or a finger to select an element, there is a level of implied hand/eye coordination. This implied level may, however, not consider users/customers with a permanent disability like cerebral palsy or a situational disability like being in a fast-paced environment. Next time you are at a restaurant, sneak a peek at the digital register screen your server uses. Imagine what life for them would look like if the buttons were much smaller.

Visual Limitations

"You're not welcome here unless you have perfect vision."

> **Try looking at your browser with diminished vision.**
> Using the "Rendering" Tab in Chrome Developer tools, set the "Emulate Vision Deficiencies" to achromatopsia. Explore your product using this setting. What are you finding to be hard to interpret? Could you accurately interpret the information in your product if it was only black and white? Have you ever used the zoom function on a web browser on a desktop, tablet, or phone?

Use of Color

There are different types of color deficiencies—more commonly known as "color blindness"—a person may have that our love of color will not extend to. Within the general population, 1 in 12 men and 1 in 200 women are affected by "red-green" color vision deficiency alone.[6] This means that a greater number of our peers and users/customers may need to rely on more than color for communications. Efforts should be taken to ensure that color plus another design element are used in our products.

Some examples of this are:
- Color + Shape – Create a stoplight report using arrows or triangles instead of just colored circles
- Color + Line – Ensure links use underlines to call out that they are clickable
- Color + Text – Add labels to clickable elements that are visually similar, like color pickers in a filter.

Adding design elements to distinguish content also helps customers that are moving quickly to identify clickable elements. In one study, on mobile screen users "were roughly 37% faster at finding items when visual indicators varied both in color and icon compared to text alone."[7]

Video Descriptions

I find that one of the lesser-known features of digital accessibility as it relates to visual limitations is video descriptions. These are descriptions of what is happening on screen. To view an example of this, please visit www.bit.ly/AudioDescriptionExample. Consider this tactic when hosting webinars or meetings that include slides where the visual is essential content. This may mean substituting phrases like "as you can see, we are doing well this quarter" with "the chart on screen shows a bar graph demonstrating a 30% increase in revenue quarter-over-quarter". I can state that I personally have walked away from my desk wearing Bluetooth headphones to refresh my coffee and been thankful for more detailed descriptions of charts, graphs, and photos.

Auditory Limitations

"You're not welcome here unless you are able to hear or turn on audio"

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[6] *"Colour Vision Deficiency (Colour Blindness)." NHS choices. NHS, April 1, 2019. https://www.nhs.uk/conditions/colour-vision-deficiency/.*

[7] *Harley, Auror. "Visual Indicators to Differentiate Items in a List." Nielsen Norman Group, 7 Aug. 2016, https://www.nngroup.com/articles/visual-indicators-differentiators/.*

> **Try understanding content you can't hear.**
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> *Does your product or company use videos for marketing or how-to instructions? Besides listening, what are other ways users/customers could access this content?* Have you ever been sent a video while you were in a public place that you wanted to watch but didn't want to turn the volume up to hear?

Closed Captions

Whether we have a kid sleeping in the next room or happen to be watching the local news at a noisy restaurant, I'm sure we've all been thankful for closed captions. Closed caption files use time codes to present the text on screen of what is being said. If possible, written captions should be used. Auto-generated captions do a poor job of capturing what's being said, especially if the person speaking has a speech impediment or an accent. A good example of this can be found using the auto-generated closed captions from YouTube on the video found at www.bit.ly/AutoGeneratedCaptionExample.

Transcripts

Transcripts are a written or printed version of material originally presented in another medium. Written transcripts can prove to be extra valuable as they may be leveraged with search engine optimization. When someone Googles "pharmaceutical inventory management" why shouldn't the content contained within a Cardinal Health video be presented. Transcripts are also valuable for when you want to revisit a specific topic in a video or audio file you've previously watched or listened to. Linking the point of the transcript to the video or audio file helps us move much quicker in getting to the relevant content. Transcripts are a nice to have for people with or without more permanent auditory disabilities.

Verbal Limitations

"You're not welcome here unless you speak clearly and concisely."

> **Consider your experience with voice interactions.**
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> How many times in your life have you had to spell your name or email to a representative over the phone? How many times have representatives gotten it wrong? Or the automated system couldn't understand you? Does your voice assistant on your phone have any difficulty understanding what you said? Imagine those interactions every day.

Customer Care by Phone Only

There exists a few different ways that people prefer to learn (visual, auditory, and kinesthetic) similarly there are preferred methods for contacting customer care. Given that race/ethnicity/ancestry made up 64.8% of all bias motivations for single-bias incident in the U.S.[8] (i.e. hate crimes), you may be able to empathize with why users/customers may prefer non-verbal interactions. Similarly, your customer service agents may appreciate not having to interface with bias customers.

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[8] *"FBI Releases 2021 Hate Crime Statistics." The United States Department of Justice, December 13, 2022. https://www.justice.gov/hatecrimes/hate-crime-statistics.*

Written communications need to allow for customers and representatives to maintain anonymity where race, gender, sexuality, religion, and disability are concerned. The Harvard Business Review audited 6,000 hotels in the U.S. by sending email inquiries from fictitious email accounts that signaled the senders race and gender. Through systematic examination, they observed that "frontline employees were less responsive to nonwhite customers and objectively less helpful and friendly."[9]

Cognitive Limitations

"You're not welcome here unless you are distraction free and have a great memory."

Try understanding information when you're sick or distracted.
Have you ever tried to look up information when you're sick and not be able to focus? Have you ever tried to read something that was way beyond your level of knowledge? Have you ever been in a rush where you needed to find a phone number but had to go through paragraphs or pages of information?

Your product is not the only product a customer uses! As an example, pharmacies can use upwards of 9 different applications to maintain inventory. I cannot expect that a pharmacist can easily navigate my product without needing some grounding every time they transition from one application to another. Add to that the 3-7 distractions that occur every hour in community pharmacies[10]. Even without a bodily cognitive disability like ADHD or dyslexia, a healthcare worker in this environment needs to know that their SaaS product has them in mind.

Clarity

Frustrations may occur when we fail to effectively communicate successes, failures, consequences, and next steps to our customers. Consider the following common issues your product may be employing:

- **Forms where the submit button is disabled until all relevant content is completed.**
  I liken this to a marriage conflict in which one party is clearly not doing well and other must trial and error different resolutions until a resolution is found. Wouldn't it be easier if they just said what was wrong?
- **Error messages that refer to coding jargon.**
  Error code 158? Something to do with JavaScript? Help your customers troubleshoot by letting them know generally what happened, how they can resolve it themselves, and who they can contact if they fail to resolve it themselves.
- **Disregard for emphasis when a destructive action is about to occur.**
  Breaking form and pattern may be necessary for getting the attention of a customer who is about to perform a destructive action – something that cannot easily be undone - like deleting files or canceling a subscription.

We got to see an unfortunate consequence of failure to communicate when Citigroup wired $893 million to Revlon's lenders

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[9] *Feldberg, Alexandra, and Tami Kim. "How Companies Can Identify Racial and Gender Bias in Their Customer Service." Harvard Business Review, May 28, 2018. https://hbr.org/2018/05/how-companies-can-identify-racial-and-gender-bias-in-their-customer-service.*

[10] *Reddy, Apoorva, et al. "Interruptions in Community Pharmacies: Frequency, Sources, and Mitigation Strategies." Research in Social and Administrative Pharmacy, vol. 15, no. 10, 2019, pp. 1243–1250., https://doi.org/10.1016/j.sapharm.2018.10.030.*

instead of the $7.8 million interest payment. Three separate employees missed the need to check three separate checkboxes instead of just one for principal. Unfortunately for Citigroup, the courts decided that "a beneficiary should be able to consider the transfer of funds as a final and complete transaction, not subject to revocation."[11]. What might your products $900 million blunder be and what can you be doing now to prevent it?

Start Welcoming Everyone

If you're wondering about where to go from here, I would encourage you and your product team to read *Giving A Damn About Accessibility* written by Sheri Byrne-Haber which can be read or listened to for free at www.accessibility.uxdesign.cc. You may also consider the free, self-paced course provided by the W3C that can be found at www.edx.org/course/web-accessibility-introduction. Once you understand different DE&I and accessibility criteria, you'll want to perform a full audit of your product to understand its current level of compliance and build a prioritized backlog of issues to address.

If you find that your product requires a large backlog of defects related to accessibility, try not to get discouraged. Always remember, we are looking for progress over perfection.

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[11] *Wallander, Bill, et al. "Second Circuit Determines Agent's Mistaken Payment of Principal to Lenders Does Not Invoke 'Discharge-for-Value' Exception to Restitution: Insights: Vinson & Elkins LLP." Vinson & Elkins, 21 Dec. 2022, https://www.velaw.com/insights/second-circuit-determines-agents-mistaken-payment-of-principal-to-lenders-does-not-invoke-discharge-for-value-exception-to-restitution/.*