

Designing for a more Accessible web

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Web accessibility, by definition, is the inclusive practice of ensuring there are no barriers for people with physical disabilities, situational disabilities, or socio-economic restrictions on internet access when interacting with and accessing the internet.

Definition of web accessibility

When people think of designing for an accessible web experience, usually the first things that come to our minds are the choices we make on colors, fonts, and assistive technology. While all of these elements are critical to consider in the making of an accessible web experience, web accessibility goes beyond the challenges that need to be resolved in the visual, auditory, and cognitive spaces. This article aims to help people (especially designers) who work in the digital space learn about some crucial and sometimes unapparent factors to consider when designing for web accessibility. I will share some learnings from the website redesign I recently worked on for [Google's Next Billion Users' \(NBU\) website](#), a website designed to help inspire its audience to build products for the world's next billion users coming online. As I navigated the challenges from the work I did for Google NBU, I encountered 3 major accessibility challenges—from creating an intuitive design system for the web, designing through the lens of site performance, to balancing solving for accessibility and its unintended consequences.

Creating a design system that's intuitive and accessible for web

A design system is a set of standardized components and shared practices organized to manage design at scale by reducing redundancy while creating a shared language and visual consistency across the design and development of products such as applications or websites.

When establishing a design system, you're likely going to be working closely with a branding designer/team to create a set of colors, typography and patterns to be applied to the website. But if the branding designer has only worked in print, the design system they create is likely not going to be 100% applicable to the applications or websites you're designing.

When I was working on Google's NBU website's redesign, our team was informed that another agency was responsible for creating the branding guide in which they have used to create all the marketing materials for the Google NBU, including the campaign videos, posters as well as social media assets. When our team received the branding guide, we immediately knew that most of the components wouldn't be applicable to our website.

The two main challenges we ran into from the branding guide are the fonts and colors chosen by the branding team. The marketing materials are usually meant to be designed to be eye-catching and attention-grabbing, and sometimes this design approach could result in the deprioritization of the readability of the fonts and the use of bold and high contrast colors (see examples below). While these

visual components work well to deliver an impactful visual impression to the audience on a billboard or in a campaign video, when transferred to be used on the web whether for informational or actionable purpose, the lack of readability in the copy and the lack of intuition in the color choices could lead to the lack of engagement and confusion for the users. For example, if the primary color in the branding guide is red, when being applied to the primary call-to-action buttons on the website, it could be misinterpreted as alerts, preventing users from interacting with a potential critical step in completing their user journey.



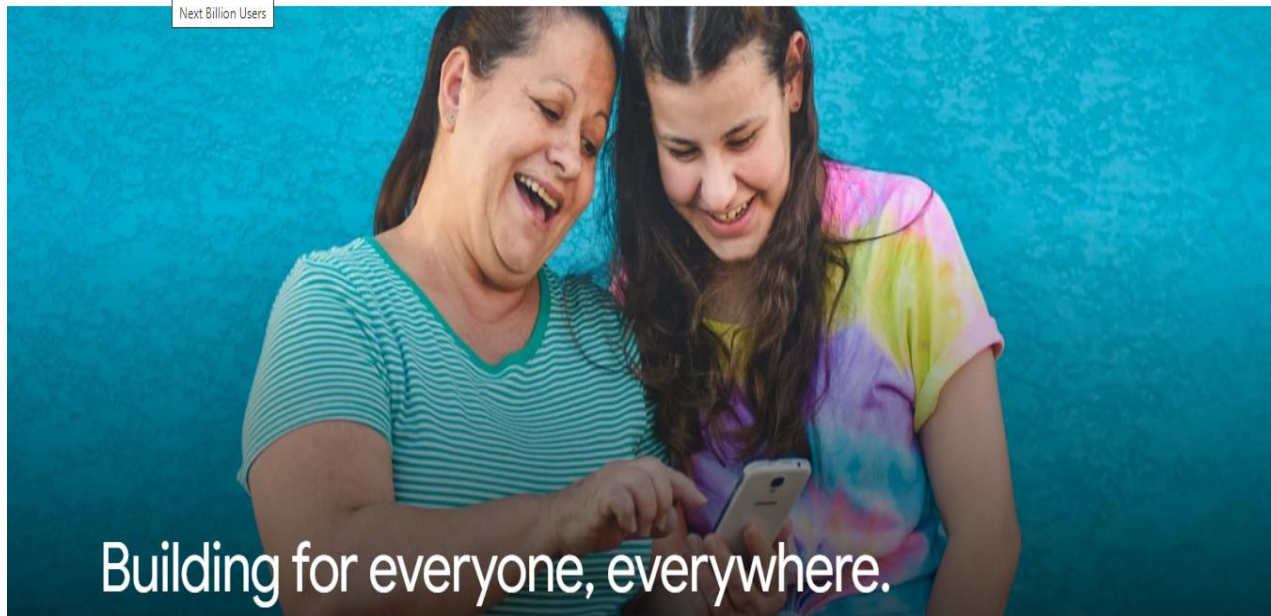
Image source: [Outcrowd](#)

Designing accessibility through the lens of performance

While there are plenty of accessibility factors to pay attention to on the front-end development of a website, the back-end development is equally as important and sometimes requires additional thinking. Front-end development focuses on the aspects of a website that are user-facing, such as the layout, interaction, and the design of the website, whereas the back-end development focuses on the server-functionality such as database management, content management and API development.

As a part of the redesign of Google’s NBU website, I led a workshop with the cross-functional team, including Research, Design, and Dev, to conduct a comprehensive audit of the current website to identify the user pain points and the opportunities for improvements. During our share-out of our audit findings, I learned from the Development Lead that when he emulated his phone to be under a 3G environment, it takes about an average 5 minutes to load just the homepage alone. The main reason why the load time is so shockingly long is because the homepage contains 5 auto-played videos which take up a lot of storage on the back-end of the website and require time for them to be preloaded and played depending on your internet bandwidth and speed. This finding was surprising and incredibly educational for the rest of the team as most of us didn’t realize the use of the videos on the homepage could be such a counterintuitive approach to driving user engagement, and it became a critical factor we took into consideration for our design as our user research suggested that the majority users of the NBU website use mobile as their primary devices and most of them lack great internet access and speed.

It became clear to the design team that we needed to explore other avenues to drive user engagement on the homepage since the incorporation of videos doesn’t create an accessible and equitable experience for all NBU users. I led a few brainstorming workshops inviting cross-functional partners to come up with ideas that could create an engaging and yet accessible experience to help the users quickly understand what the NBU initiative is and how they could interact with the resources on the website. To our surprise, we came up with a variety of ideas involving the use of typography, motion design, and copywriting that we believe would deliver an experience that’s just as impactful and engaging without compromising the performance of the website for anyone.



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Image description: final design for NBU's homepage

Balancing solving for accessibility and its unintended consequences

When we face challenges that arise in accessibility, we sometimes go for solutions that are the most obvious to us—if we want to increase the readability of text that's laid on top of an image, we apply a light or dark filter between the text and the image, and it usually works. However, an obvious solution like the filter application could sometimes overlook some unintended consequences associated with it, when applied to certain circumstances.

As a part of the homepage of Google's NBU website, we included 3 cards that would lead the users to the prospective resources pages. The purposes of these 3 cards are to give the users a quick overview of what each resource page offers and incentivize them to click on the card to navigate to the pages. After doing a few rounds of explorations on the card

design, our design team felt it was helpful to complement each page description with an image to provide additional context to the users. We also wanted to follow the full-bleed image visual direction we've applied across the website, and we ended up moving forward with the direction by filling each card with images while layering the page description copy on top. To make the copy more legible, we applied a layer of dark filter on top of each image. We all felt excited to present this design direction to the leadership team.

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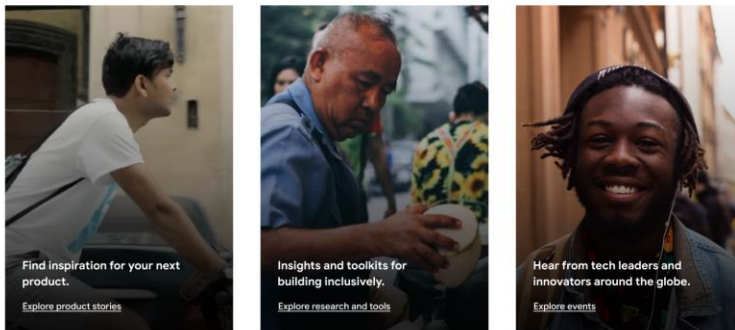


Image description: initial exploration of the resource cards on the homepage

However, after sharing our design, we received the feedback that while applying the dark filters made the white text copy more legible, we neglected to present portraits of people with dark skin in an authentic way to a point where you could not identify the features and characteristics of them clearly. This seemingly obvious solution for an accessibility issue can perpetuate harmful stereotypes associated with people of color and contribute to the marginalization and discrimination of people with dark skin.

It is important to be mindful of the impact of the images we create and share, and to consider the ways in which they may contribute to

harmful stereotypes or reinforce existing power dynamics. By being conscious of these issues, we can work to create more inclusive and respectful media that celebrates diversity and promotes positive and authentic representation.

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Image description: final design of the resource cards on the homepage

Each one of the anecdotes above had taught me some crucial lessons when approaching designing web accessibility, and here are three actionable takeaways I've summarized to help anyone working in the digital space to create more accessible products:

1. Establish a shared goal among cross-functional teams

Even if all of your team members have designing accessibility in mind, it's important to define what accessibility means for the specific product you're working on and establish a shared goal before moving into the design and development of the product. As my first

anecdote suggested, a design system established by brand designers who have no experience working in the web doesn't always translate well into a website design, and could cause serious accessibility issues.

2. Collaborate with cross-functional partners proactively and frequently

Establishing a collaborative partnership between design and the cross-functional team, especially development, is the key to ensuring the accessibility and usability of a digital product. There's always some discrepancy between how the design looks in concept vs. how it gets built and functions. Working with developers proactively and frequently could avoid a lot of accessibility issues early on and open up more opportunities to create product solutions that are usable and accessible.

3. Look for the non-obvious solutions

Even if designers have the best intention to create accessible solutions for the digital products, our blind spots in these solutions could sometimes lead to unintended consequences that could make certain user groups feel excluded and mistreated. Accessibility and inclusivity should go hand in hand, and it's important to not compromise one over another by resisting the temptation to jump to the most obvious solutions.

Learning about accessibility in design is a life-long journey as our human needs are constantly changing and we continue to advocate for a more inclusive and accessible society. On top of keeping up with the changes and the new offerings in technology, it's even more

important to keep an open mind to what you don't know, stay collaborative with people from other disciplines and have the humility to admit your mistakes and work with the right people to resolve them when approaching solving challenges in accessibility. I hope the lessons I shared in this article on designing for accessibility in the digital space could offer some inspirations and tangible approaches for you and your team to adopt when accessibility related challenges arise during your product development process.