Negligence of Web Accessibility for Disabled People and the Potential for Larger User Spaces and a More Inclusive Virtual Society

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On my honor as a University student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments.

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Introduction

As the internet becomes more and more ingrained in our everyday life, the potential for improved social inclusion of people with disabilities grows. The internet and its associated technologies, such as websites and applications (which I will refer to from now on as internet technologies), allow disabled users to perform actions with more ease than what would normally be expected in a physical environment (Eastomm, 2018). Such actions include, depending on the specific disability of course, communicating with other people, purchasing essential items, and learning about different subjects. However, as society delves further into the virtual realm, negligent and exclusive web design practices could end up ostracizing disabled people even more than if the internet were to never exist. When I say negligent web design practices, I am referring to practices that make internet technologies less accessible to disabled people for some specific reason, such as making these technologies more accessible being too time-consuming or costly, or because of how these changes might affect the more general user space of non-disabled people (Lin, 2002). One specific instance that highlighted this trend was the court case of *National Federation of the Blind v. Target Corporation.* This class action lawsuit involved the plaintiff, being the National Federation of the Blind, accusing Target Corporation of making their website inaccessible to blind users to the point where a blind person would not even be able to purchase anything from the site on his own.

The current understanding of this issue is that government regulations involving web accessibility standards do not do enough to promote an acceptable level of accessibility for disabled people and are not enforced well enough, such that many companies exploit or ignore such regulations to the point where they are not able to improve web accessibility by a significant degree (Blanck, 2017). While this sentiment is true, and government regulations

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should be improved to account for these problems, it would take an unpredictable and likely unacceptable amount of time for new regulations to come into effect and to enact a system that enforces them properly, especially when considering the rate at which the internet is become a greater and greater superpower. Rather, it is web designers who are more accurately accountable for allowing large groups of potential users to be excluded, as improving accessibility is likely to benefit them as well in the long run. Failing to correct this new line of thinking could allow web accessibility to stagnate until government regulations improve, if they ever do. However, adopting this understanding, or more specifically, if scholars on the subject as well as web designers themselves accept this understanding, then not only would disabled users be able to access a wider range of internet technologies, but designers would also increase the user spaces of their software, as well as improving the reputation of their respective companies, especially if they pioneered this new trend of accessible design.

I argue that web designers themselves should be held accountable for inaccessibility of internet technologies, because they are the ones missing out on benefits to themselves and their respective companies. In order to support this claim, I will use the conceptual framework of Actor-Network Theory (ANT) to analyze the case of *National Federation of the Blind v. Target Corporation.* Using this framework, I will analyze how each individual actor contributed to the overall failure of the network, leading to the inaccessibility of Target's website, the unfavorable result of the trial for Target Corporation, and how the precedent set by the case failed to improve web accessibility standards in the future. I will look at what each actor could have done differently to promote a successful network, and I will show how this will contribute to my claim that web designers should see web accessibility as a potential benefit for their companies rather

than a cost, and how they should be held responsible for the current trends in web accessibility because of this.

Literature Review

Current scholarship on web accessibility for disabled people recognizes the negligent approach of web designers in this regard and acknowledges the sociotechnical consequences of such an approach, but often fails to diagnose a proper root cause. While many scholars have correctly identified that failing legal regulations of web accessibility standards, they have not adequately analyzed how web designers ignore these standards to their own detriment.

Peter Blanck argues that web accessibility is necessary for disabled people to be fully integrated into the information age, specifically focusing on people with cognitive disabilities. He expresses that web accessibility is a basic civil right in the modern era, and laws need to be properly geared around it so that people with disabilities can have the required tools to be fully functioning members of society, drawing his argument back to other civil rights such as freedom of speech and association (Blanck, 2017). While Blanck accurately assesses the current state of the problems with web accessibility, he only examines the issue from a legal standpoint. While the creation of better regulations for web accessibility would undoubtedly be a step in the right direction towards inclusion of disabled people in internet technologies, the immediate blockade towards that end currently is the failure of web designers to grasp the benefits of improving accessibility of their software.

Jonathon Lazar and Paul Jaeger go a bit further than Blanck's argument. Similarly, they analyze the ways in which legal regulations have failed to include people with disabilities in information technologies. However, they also trace back the fault to web designers, as they

choose to exploit these minimal regulations in order to avoid having to adjust their software to account for wider groups of people, even though such changes would me much easier to implement using modern design principles. They also explain how internet technologies are extremely beneficial towards social integration of disable people, but the lack of web accessibility would make these benefits for naught (Lazar & Jaeger, 2011). While this argument is more comprehensive than Blanck's assertions, it still treats accessibility like a cost instead of a benefit for web designers. Lazar and Jaeger blame designers for not putting in the extra effort to improve accessibility, when in reality, designers should already be incentivized to do so.

Laura Geley argues that there are many reasons to care about web accessibility, such as legal compliance, improved reputation, and acquisition of new customers. Unlike Blanck or Lazar and Jaeger, she does not look at the problem from a legal perspective (Geley, 2018). Though this does fall in line with this paper's claim, Geley's argument does not capture the responsibility that web designers hold in making internet technologies accessible. Also, not considering the law's failings is still a mistake, despite not being the main point of this paper.

In this paper, I will analyze how web accessibility regulations have failed to be effective similar to Blanck and Lazar and Jaeger. I will also show the benefits of improving web accessibility for both users and designers, similar to Geley's argument. However, I will build upon these ideas to show why web designers should feel motivated to make web accessibility a priority in the user experience design process, regardless of legal regulations.

Conceptual Framework

ANT is a conceptual framework within the field of Science, Technology, and Society (STS). Its main ideas are that a large quantity of human and non-human actors come together to

form a network for any given technology that can either fail or succeed based on the network builder and the presence of rogue actors. This particular framework will allow me to analyze what caused the network to fail in the case of *National Federation of the Blind v. Target Corporation.* Specifically, I will be able to identify which actors went rogue, what the network builder could have done differently to prevent the failure of the network, and what implications this failure has for future cases and scholarship on the subject.

ANT is primarily based around a few key terms which I will define and explain here. An actor is a contributor to something in some way, and there are both human and non-human factors. When examining technologies, examples of actors can be engineers, government, employers, environmental factors, animals, or locations to name a few. A network is a large group of different actors that connect to each other through distinct relationships that build towards a certain outcome, such as the establishment of a certain technology. A network can either succeed or fail based on the strength of the relationships between its actors. A network builder is a single actor who essentially creates a network with the intention of success. When analyzing whether or not a network has succeeded, it is easiest to start with the network builder and trace all of the relationships from there. An actor-network is an actor that also has its own network of actors, and all actors are also networks, but these actor-networks can be punctualized, meaning that they can be abstracted into a single actor or node for the network in question. A rogue actor is an actor whose actions in the network diverge from its intended role and end up sabotaging the overall goal. Finally, the process of translation is the method by which relationships between different actors are formed, resulting in a new network. The network builder initiates this process in an attempt to create a successful network.

In my analysis on the case of *National Federation of the Blind v. Target Corporation,* I will begin by identifying all of the individual actors that comprise the network surrounding this case. I will group certain actors that fulfill similar roles together in order to simplify the network to make it more understandable. I will then explain the relevant relationships between these actors, evaluating the strength and power balance of these relationships along the way. Then I will show how each actor and relationship contributed to the overall failure of the network. Finally, I will summarize how this analysis contributes to the overall claim that web accessibility is the responsibility of web designers and acts as a potential benefit for them. I will also identify potential flaws and counter-arguments that could still contest this claim.

Analysis

I will begin by identifying the most relevant groups of actors in the case of *National Federation of the Blind v. Target Corporation.* The first important actor is Target Corporation (TC) itself, which acts as the defendant of the case. The next actor is the web designers working for TC, which could be argued to be a part of TC, but as they hold the actual design expertise and make the big decisions for how the website operated, whereas TC operates more from a business perspective, they will be treated as a separate actor for this network. Another important actor is TC's website, as it was the cause of the controversy that sparked the case. The next actor is the National Federation of the Blind (NFE), which is the plaintiff of this case. NFE itself is not a very important actor for my argument, but it acts as a representative of the next actor, blind users of the website, who are in turn representing all disabled users. The next actor is non-disabled users, which may not seem immediately relevant to this case, but through my analysis, I will show that they play a large role. The final actor is the government, which I have generalized to

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include both the court and the web accessibility regulations. This means the government actor

both sets the regulations and laws leading up to the case and determines the judgment of the case.

Figure 1 shows the relationships between all of the relevant actors, which I have derived through translation. Web designers are the sole influencers of the website, as they make all of the design decisions associated with the site. For this reason, I have identified them as the network builder, as they represent the actor from which all of the other relationships are formed. The web designers are primarily influenced by TC, as all requirements come from them. Both disabled and non-disabled

Figure 1: The network for *National Federation of the Blind v. Target Corporation.* Bolded arrows represent a strong relationship, whereas thin arrows represent a weak relationship. The direction of each arrow shows the direction of influence for each relationship. The yellow node represents the network builder.

users influence web designers, as the design of the website has to conform to their needs in order

to be a success, but non-disabled users have much more power as they represent a much larger

percentage of TC's user space. Disabled users influence NFE (specifically blind users), as NFE

exists to protect their rights. NFE in turn influences the government, as it will hold the

government accountable for when its decisions infringe on the rights of blind people. Finally, the

government influences TC by setting regulations for their website and deciding the outcome of

the trial, but I have denoted this as a weak relationship for two reasons. First, the web

accessibility regulations set by the government are not well enforced, resulting in exploitation by
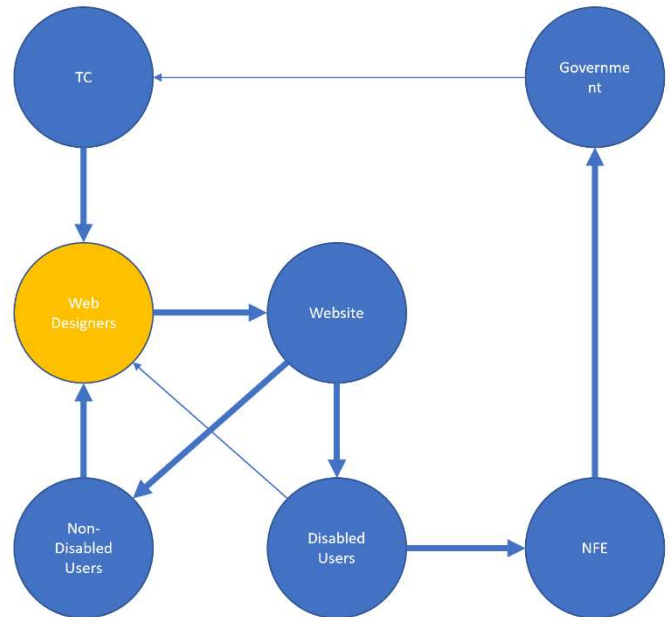
TC. Second, the judgment decided by the court did force TC to pay reparations, but it failed to set precedent for other private companies engaging in similar practices.

Before identifying which actors went rogue and what this means, I must first explain why this network should be considered a failure. The main reasons for this stem from the weak relationships shown in Figure 1, as if the network were functioning properly, then all of relationships would ideally be strong. The current understanding of this topic is that the weak relationship between the government and private companies (TC in this case) is to be blamed for the limited accessibility of modern websites. This relationship contributed to the overall failure because the lack of enforcement of the government standard for web accessibility led to TC ignoring them. Also, the judgment of the case determined that because TC's website was largely integrated with their physical stores, the level of accessibility of the site was unacceptable. This set a precedent that allowed private company websites with little or no relation to their physical locations did not have to make their sites accessible. The other weak relationship is between the web designers and the disabled users, which is what I will focus on for my argument. This relationship contributed to the overall failure because the lack of consideration of disabled users into the website's design made it near impossible for blind people to use the site. Icons on the site lacked descriptions, making clicking through pages a process of trial and error for blind users. This lack of usability for this specific grouped sparked the NFB to sue TC due to an infringement on the rights of blind users. It also struck a blow to TC that could have been avoided if the designers had made accessibility a priority.

As many scholars have pointed out, the lack of efficient laws regarding web accessibility could have prevented a case like this. However, the fault of the web designers has been ignored

in previous critiques of modern web accessibility. Here I will detail the misconceptions about web accessibility that have caused designers to ignore it in many cases.

First, designers tend to consider minority groups to not be a priority in the design process. The modern standard for web design is known as the user experience (UX) process. This process involves developing a primary persona, which means a fictional person who represents the main demographic of a piece of software. If a particular design decision would satisfy the primary persona, then it is considered a success (Goldsmith & Kleiman, 2017). This process thus tends to ignore minority groups. Scholars have argued that this is a legal infringement on these minority groups, but it is also a core flaw in the UX design process. The World Bank reports that 15% of America's population has some sort of disability (Geley, 2018). By ignoring these groups, designers miss out on widely expanding their user spaces. The issue with the primary persona mentality is that it does not even consider secondary personas. Every design decision is made solely with the primary persona in mind, and accommodations for secondary personas are not made even if they do not infringe on the primary persona. Some have argued that designing for people with disabilities leads to a less appealing site for the majority of non-disabled users. However, web accessibility studies have shown that even simple additions like detailed captions and text-to-speech options greatly improve the usability of internet technologies for disabled users. These are basic features that do not interfere with an average user's experience. Also, for more complex and potentially intrusive features, there is always the option to only allow these features when the user has specifically enabled them.

Another misconception is that designing for large ranges of groups is too timely and costly. Depending on the desired level of accessibility, costs would certainly rise, and more time would be required, but the previously mentioned UX design process would reduce these effects

more than ever. The UX design process operates in cycles, during which each stage of the process is repeated multiple times even after a piece of software's release (Goldsmith & Kleiman, 2017) This process favors inclusion of many different ideas, whether practical or impractical. As improvements to accessibility would be able to be gradually added throughout multiple cycles, the time and cost required would be minimal. Also, simple additions such as those mentioned earlier would not require much cost even without this process. One might argue that it is unreasonable to expect companies to pay extra cost with no benefit, but the expected increase in users drawn in from these additions would also result in greater profit. A 2020 study on web accessibility projected that if the increase in profits was proportional to the increase in users, then in most cases, these profits would greatly outweigh the costs. These misconceptions show that a large contributor to declining trends in web accessibility is a lack of willingness for web designers to adapt their design processes.

Conclusion

In this paper, I have used ANT to dissect a case in which a specific actor-network failed by excluding a specific group of users, hurting the company responsible in terms of its reputation and its profits, and failing to set a precedent that would prevent similar cases from repeating themselves. This analysis supports the idea that web designers are the first and foremost actor to be held accountable for negative trends in web accessibility, and companies are only harming themselves by not making accessibility a priority, which should be seen as a benefit rather than cost, due to the consequential improvements to company reputations and widening of user spaces for internet technologies. Keeping this in mind, readers should be more aware of the best practices for web designers, as well as the importance of the efforts of designers over that of the law. In practice, this new understanding has the potential to lead to many improvements. First of

all, disabled users will likely be able to use a greater number of internet technologies more easily, and this change can be implemented much faster than simply waiting for government regulations to change. This will also improve integration of disabled groups into a society that is gradually becoming more virtual. Second, web designers will be able to increase their user spaces and improve the popular view of their companies. Finally, if many different companies adopt these principles, then there could be a large-scale change to the overall process of user experience design that would promote inclusion of all possible groups as opposed to a singular demographic.

Word Count: 3275

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