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Exploring the Experiences of UX Professionals in Accessibility

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Abstract

The session will share results from an exploratory research study that delved deeper into the experiences of technology professionals who are interested in digital accessibility. Despite the growing resources within digital accessibility, UX professionals lack support and resources for their accessibility work. This paper builds on these known issues to gain a deeper understanding of the resource needs and experiences of UX professionals as they develop their knowledge and skills in digital accessibility. Our specific aims were to learn more about 1) accessibility practices of digital product teams; 2) motivations, incentives, and rewards for integrating accessibility practices; and 3) resources and supports to develop accessibility knowledge and skills.

Our analysis showed that the study participants reported they had adequate access to implementation and education-based resources but have limited people-based resources. This is important because some participants suggested that having allies and team members who shared their interest or passion for accessibility was a significant influence and crucial support for encouraging accessibility practices. They found interactions with these people-based resources highly valuable and multiple participants indicated a desire for more opportunities to engage with and learn from others.

Keywords

Accessibility, User Experience, UX, people-based resource, support, professional development

Introduction

User experience (UX) professionals including designers, product managers, researchers, and software developers, play a crucial role in accessibility and inclusive design of digital products. They are part of a team responsible for ensuring that a user has the best possible experience with their product, so they must be able to design and deliver usable and useful features that address diverse needs, skills, and abilities. Despite this necessary responsibility, UX and related professionals report multiple difficulties in applying accessibility in their work including limited managerial support (Lazar et al, 2004) and insufficient knowledge (Trewin et al, 2010).

Limited managerial support and lack of accessibility leadership is common as UX professionals are typically employed by technology companies that rarely have a dedicated accessibility department or group of experts. In-house accessibility teams are more likely to be found at assistive technology companies or well-known tech giants. One of the first named accessibility positions was at Microsoft in 1992 and three years later, Microsoft expanded their commitment by developing a corporate policy and plan to provide accessibility features in their products (Schroeder et al, 2012). Since that time, multiple large tech companies, including Adobe, Google, Facebook, Verizon Media, and Oracle, have created specific departments or groups that serve as the contact point for company-based initiatives and resources for implementing accessibility and inclusive design practices. In 2014, the first C-suite positions were appointed at Microsoft and IBM (Miller, 2014). Accessibility and inclusive design are now practiced in various ways throughout digital product companies that must navigate complex legal and compliance issues, user experience requirements, software and testing guidelines, and multiple other aspects of managing business in the technology sector.

While general resources such as conferences, guidelines and certifications are valuable, there is a need for more people specific resources that showcase case studies, stories and in-depth information regarding the field that would demystify the accessibility profession of practice. Professionals within accessibility connect with each other at various events such as meetups, conferences and networking socials however, these connections are limited to these events which are often paid, and in some case, poorly advertised. Newer UX Professionals who are interested within accessibility are often unaware of resources, as well as various career avenues available within this field. Social platforms such as LinkedIn and Facebook offer various features that enable these professionals to make meaningful connections and learn from one another. However, these platforms have their own set of restrictions. While LinkedIn is a great platform to showcase work, profile as well as build a virtual resume, it relies solely on the use of posts and messages to build connections; there are limited ways to consume information. It does not lend itself towards storytelling and sharing stories and case studies about people, unless people share them through their own blogs and posts.

Therefore, while there are ways to teach people through these trainings and programs, along with companies creating support for accessibility practices, the social piece is missing; there is no centralized place to find people and stories within accessibility that are personalized to the role, that would help people make that connection of day to day responsibilities to accessibility. Thus, there is a need to build a broader community of support for accessibility professionals, outside of these conferences and meetups and in addition to these social networks. This study explores the need for these resources, superficially targeting those social resources within accessibility. Creating people-based resources for accessibility professionals would now only create a knowledge base, but also provide a platform for people to seek support and allies.

Methods

To develop a deeper understanding of the accessibility resource needs and experiences, we interviewed and surveyed UX professionals. We targeted their experiences with a range of accessibility resources and practices at their workplaces to better understand the barriers they face in developing skills and knowledge in accessibility. A survey followed after the interviews were analyzed to broaden the pool of respondents and validate the findings from the interviews. Both the interview and survey activities were approved through the Georgia Tech Institutional Review Board prior to the start of research.

Interview Participants

Sixteen professionals working in a wide range of roles related to UX, such as designers, researchers, product managers, engineers, or similar roles participated in this study. We did not ask participants to identify a label for gender. Participants were recruited through accessibility-related conferences (e.g., Disability: IN, Ability Summit, A Future Date), social media (i.e., LinkedIn, Facebook), online groups (e.g., a11y, Systers), word-of-mouth, and personal referrals. To be eligible for the interviews, participants had to be fluent in English, be age 18 years or older, located in the US at the time of the interview, interested in working on accessibility or pursuing a career in digital accessibility, but not currently in a named accessibility position. Participants varied in their level of self-reported expertise in accessibility and years of experience working in technology.

Interview Procedures

The interview covered details about accessibility practices at a participant's current company, their personal motivations for being involved in accessibility work, company-based incentives or rewards for practicing accessibility, and resources or supports available to develop

accessibility knowledge and skills. The interview questions were developed based on a structured process of mapping research questions to data needs. We piloted and refined the interview protocol, and developed accessible study materials including consent forms, interview preparation information, and supports for a particular interview (i.e., visual and text descriptions for the Four-Drive Theory). The interview was conducted virtually for all interviews via Microsoft Teams, due to the COVID-19 pandemic that limited in-person interactions.

The interview included a mixture of multiple choice and open-ended questions. We specifically targeted their experiences with three types of resources: 1) implementation-based resources (e.g., style guides, WCAG guidelines, templates, design systems, etc.); 2) people–based resources (e.g., supervisors, consultants, teammates); and 3) education-based resources (e.g., books, webinars, conferences, etc.). Additionally, we asked questions about their accessibility experiences and expertise, and motivations for working on accessibility.

Survey Participants and Procedures

The survey was completed by 21 UX professionals meeting the same eligibility requirements as the interviews. The survey was conducted using an accessible online platform, Qualtrics, and was disseminated through various social media groups and word-of-mouth. The survey questions were similar to the interviews but were mostly formatted as multiple-choice options to validate the findings from the open-ended interview responses.

Analysis

We collected both quantitative and qualitative data from the interviews and surveys. The data was processed and analyzed using Miro, Microsoft Excel, and Qualtrics data analysis tools. We performed a content analysis on qualitative data to uncover relevant findings based on our

research questions. Interview notes were converted into virtual sticky notes and arranged in an affinity map to reveal emerging patterns in the data.

Each sticky note was coded to represent various characteristics of the referenced participant. For example, color was used to differentiate the various roles: designers were green, product managers were purple, researchers were green, and engineers were yellow. We used the tagging feature to indicate 'years of experience', 'accessibility expertise', 'company size', and 'other roles'. Organizing the data in this visual manner helped us to find similarities and other patterns related to participant characteristics.

Results and Discussion

The results from the interview and survey validated our initial hypothesis for our research study. This section covers the high-level insights that were uncovered during data analysis: 1) Experience, Confidence and expertise in accessibility practices and the relationships between them. 2) Motivation to pursue accessibility practices. 3) Resources used by professionals within accessibility.

Experience, Confidence and Expertise in Accessibility Practices

We explored the relationship between confidence and experience in relation to implementing accessibility. The following Figure 2 shows the relationship between the self-rated values for expertise level and confidence level for implementing accessibility. The chart indicates that these values were proportional in most cases, but it is interesting to note that a couple of users rated themselves much higher on the confidence scale, despite their lower rating in expertise.

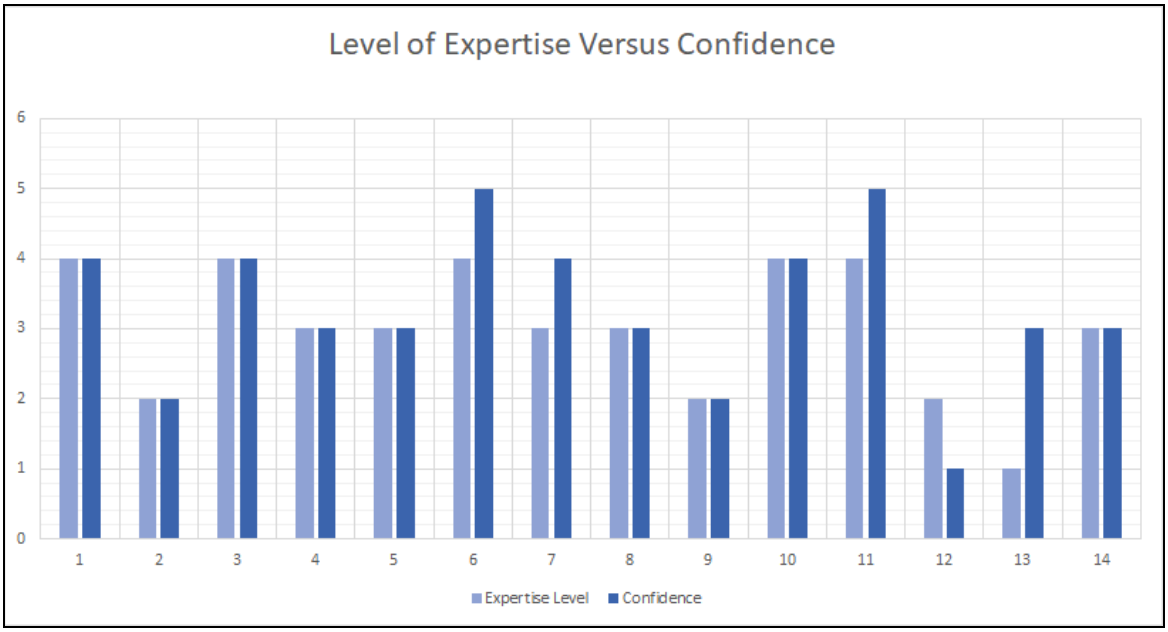

Fig.1 Self-Rating for Expertise Level and Confidence.

Users' confidence on integrating accessibility practices into their current workflow was influenced by prior knowledge and practical and educational experiences. We saw a relationship between the self-rating for confidence level with their prior knowledge within accessibility. Participants who had pursued higher education and certifications, specifically with a focus on accessibility, felt more empowered and rated themselves higher on a confidence scale. In contrast, participants who had limited experience and lacked accessibility specific qualifications rated themselves lower on the confidence scale. One interesting trend within the responses for confidence rating showed that teaching and knowledge sharing experiences boosted the users' confidence; additionally, participants even admitted to the imposter syndrome and attributed their lower rating toward it.

Users' level of expertise on integrating accessibility practices into their current workflow was also influenced by prior knowledge and practical and educational experiences. Analysis showed the various factors that influenced the level of expertise rating for the majority of users: 1) Prior knowledge within accessibility. 2) Work experiences. 3) Training and educational

experiences specific to accessibility. 4) Teaching experiences for accessibility. Other factors that influenced this rating were the imposter syndrome, and lack of time commitment towards accessibility. It was interesting to note that users brought up the imposter syndrome again during the self-rating for level of expertise. One user mentioned how their supervisors' perception of expertise imposed upon their personal perception within their self-rating.

Motivation

The users were asked to select their primary and secondary drive for motivation for implementing accessibility practices. These various categories for the drives were taken from a Harvard Business Review case study on employee motivation. The drive to acquire is tied to acquiring goods, things, or experiences. The drive to bond is tied to extending connection towards people, groups, or collectives. The drive to comprehend is tied to experiencing delight in challenges and curiosity for learning. Finally, the drive to defend is tied to the need to defend our ideas, beliefs, or people (Nohria et al, 2008). These brief descriptions were provided to users and they were asked to provide their primary and secondary motivation for pursuing accessible practices. The drive to comprehend and drive to bond scored highest across all interviews as well as survey responses; most participants included these within either their primary or secondary motivation for pursuing accessibility practices at their workplace.

Results highlighted that negative experiences and detractors around implementing accessibility practices had different interactions with motivation to pursue accessibility. For some participants, there was an adverse impact on people's motivation towards working on accessibility practices; they were discouraged and felt de-motivated to pursue accessibility initiatives because of these bad experiences. For others, they expressed the need to push harder due to the negative experiences and were more motivated to overcome the opposition. The

survey showed the negative effects of detractors on motivation to pursue accessibility practices and users felt demotivated.

Resources

We asked users about the various resources that were provided by their organization to support accessibility practices at work; majority of users found the need for both implementation based and people-based resources, however, during the qualitative interviews, we found more pain points and gaps within people-based resources. Most users felt supported by their organizations for education-based resources.

This data, in addition to the qualitative data analysis from the interviews showed the need for people-based resources. There was a positive relationship between allies and people available to these users and their motivation level for pursuing accessibility. Majority of users who had access to people-based resources more motivated towards working on accessibility practices. They valued various interactions such as activities, sharing resources, lunch and learns, and supporting each other in different ways. They also expressed the need to communicate and engage with these allies in diverse ways and mediums.

Users further talked about the value of these interactions to them; they felt validated, supported, and found value through learning with other allies. However, users who lacked allies and mentors within accessibility, expressed a need for interactions with allies and mentors. Majority of users expressed the need to participate in various activities, have discussions about accessibility practices, ask questions and learn from one another and collaborate on accessibility projects and initiatives. They wanted to participate in these activities with allies and their teammates and sought these people-based resources within accessibility.

Additionally, when users were asked about presence of mentors within accessibility, most users felt the need for additional mentorship and support. Users who had allies, expressed the need for mentors within the field. Fig. 3 shows the presence of mentors available to users (from the survey). Most users in the interviews expressed the lack of allies, mentors, and people-based resources. Many users (10 out of 14) mentioned that they faced numerous barriers for support, allies and mentors and their organization around accessibility. Majority of users (9 out of 14) lacked any allies or teammates around accessibility and the few who had allies, mentioned the lack of mentors for accessibility.

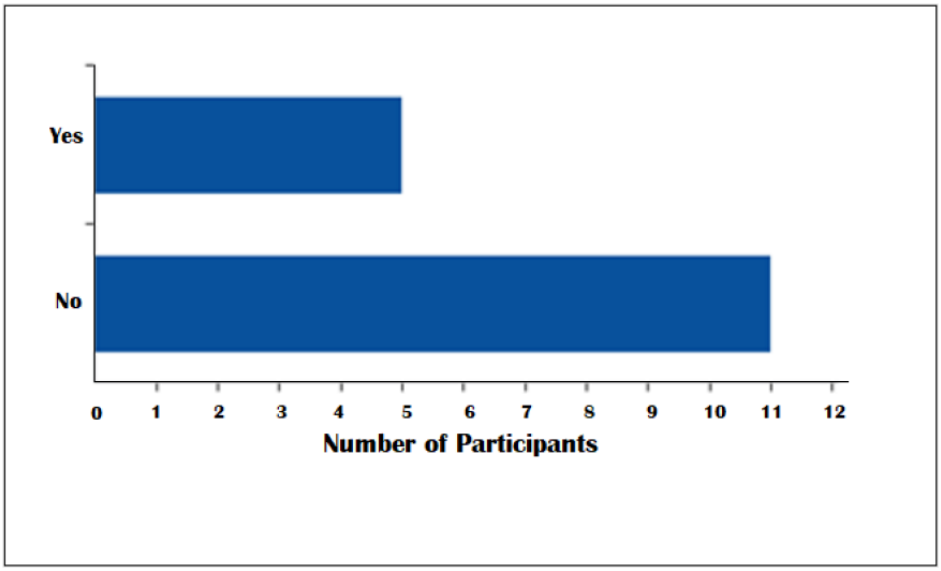

Fig. 2. Chart showing the need for mentors as expressed by users in the survey.

Conclusion

While there are diverse resources available in the industry, there is a need to provide relevant resources and support for UX professionals pursuing accessibility. These resources could be provided in different forms such as interactive guides for accessibility implementation or a social media platform to connect with other accessibility professionals in the field. Currently, platforms like LinkedIn offer limited capacity to connect with like-minded

professionals, and other organizations like IAAP require membership to access and connect with other members. These additional support systems and resources would not only motivate other UX professionals to continue working within the accessibility field, but also create a pipeline to introduce other UX professionals to accessibility and inclusive design processes.

Future Work

There are various solutions that may stem from this research; future work for this project will create a people-based resources to support these professionals working within accessibility. There is need to create content in various digestible ways, to engage the accessibility community and build meaningful relationships.

Works Cited

Lazar, Jonathan., Dudley-Sponaugle, A. and Greenidge, K.-D. 2004. Improving web accessibility: a study of webmaster perceptions. Computers in Human Behavior, 20, 269–288.

Miller, Mark (July 22, 2014). "Frances West Announced as IBM Chief Accessibility Officer". *Interactive Accessibility*.

Nohria, Nitin. Groysberg, Boris. Lee, Linda. "Employee Motivation: A Powerful New Model." *Harvard Business Review,* July-August 2008. Case Study. https://hbr.org/2008/07/employee-motivation-a-powerful-new-model

Putnam, Cynthia, Kathryn Wozniak, Mary Jo Zefeldt, Jinghui Cheng, Morgan Caputo, and Carl Duffield. "How do professionals who create computing technologies consider accessibility?" In *Proceedings of the 14th international ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '12)*. 2012, pp: 87–94.

Schroeder, Paul. A Brief History of Microsoft and Accessibility. *AccessWorld*. July 2000. https://www.afb.org/aw/1/4/16165#:~:text=In%201992%2C%20Microsoft%20established%20a,a%20long%20time%20in%20coming

Trewin, S., Cragun, B., Swart, C., Brezin, J., and Richards, C., 2010. Accessibility challenges and tool features. Proceedings W4A2010 (Raleigh, NC, USA, April 26-27, 2010).