Interview 2: Heidi Hernandez

1. Could you tell me a bit about you and your field?

"I am a Psychology major who wants to focus on human-computer interaction and accessibility."

1. In your experience, what are the challenges visually impaired users encounter when using the design?

"Participants expressed clutter, unfamiliar words, and encountered errors when using the system. People with visual impairments face difficulties in finding and navigating elements that sighted users can easily locate."

1. Can you give me an example of how you apply different tools, applications, and methods to help users overcome their challenges?

"I created tutorial videos to address term unfamiliarity and provide step-by-step guidance on using the system. I experimented with different software and microphone setups to ensure clear and inclusive videos."

1. What aspects of creating accessible content is most challenging, why are they challenging, and how have you overcome these challenges? Can you tell me about your process when you make these changes?

"The challenge lies in making the content intuitive, organized, and matching the expectations of visually impaired users. It is difficult to understand their unique needs and experiences. I addressed this challenge by researching how visually impaired individuals learn mathematics and use computers. I made detailed tutorial videos, tested different recording and editing software, and sought feedback to improve the clarity and inclusiveness of the content."

1. Can you share any experiences where you modified content? What changes were made?

"I modified the tutorial videos multiple times based on participant feedback. I addressed issues such as cuts in the videos, speaking too fast, and ensuring the software captured everything on the screen. I re-recorded using different software and editing tools to eliminate glitches."

1. What aspects of creating accessible content is most challenging, why are they challenging, and how have you overcome these challenges? Can you tell me about your process when you make these changes?

"One challenge is explaining concepts to visually impaired individuals effectively. Giving examples and incorporating audio elements can enhance understanding. However, this aspect remains unsolved in my current work due to a lack of understanding of sonification. If given the opportunity, I would test the content with visually impaired users to ensure its reliability and effectiveness."

Raw:

So can you tell me a little bit of where you are in your field?

I am a Psychology major who wants to focus on human computer interaction and accessibility?

Can you tell me a little bit of the design stuff that you work in the past that regarding about human or like student's disability?

Okay, so in the past, I've worked with a professor who specializes in HCI. And he likes to apply a lot of accessibility in his work. And one of the one of the works that he's been working on is the height chart sonification studio, which is a system that is intended to help people with visual impairments, visualize in a way data through sonification. And he let me test out the well, he he gave me the option of testing out the usability of the system of its current state, and a group of students at Georgia Tech to try to improve the system in a way and trying to understand pain points and frustrations for years users when interacting with the system. And so I created a set of benchmark task and I did the usability test, through observation. And some of the things that I found was that the participants expressed that there was like a lot of clutter, unfamiliar words, used in the system, and there was like a few errors that was encountered. So I just made like, a list of all the problems, and I reported it to the professor. So he could like, show that to the designer of the system. And it's just that when I was working on this project, there was like a lot of stuff that I have to consider. So for example, I'm, we decided to make tutorial videos, to try to address term unfamiliarity, and how to use the system because people said that there was a lot of clutter, and it wasn't really organized. So it was really hard for me to try to make tutorial videos, because I have to think, how do people with visual impairment use computers? And I had to, like, try to learn. But well actually, let me start over. When thinking about people with visual impairment, I had to learn about how do they learn maths? What types of devices? Did they use to learn maths? How did teachers teach these students to learn maths? Like how can they in a sense visualize what mathematics how can they imagine graphs, data. And through that, I have to also try to understand how they use computers. So for example, like I found that they use whenever they use devices, they use this system called JAWS, and is this system is like, when they use it, the system the device is speaks like, really, really, really fast. So you can't make sense for someone who's never interacted with JAWS, they have no idea what the device is saying. But to them, since they become like experts with using JAWS, then they know like, what they're hearing. And it's like a lot of things. They live their life differently than people who can see. So it was really hard to try to understand and how to make the tutorial videos inclusive. So when I was making the videos, I had to make sure like I explicitly very detailed explained. Like I gave them a very detailed walkthrough of the studio to solve like they could understand. But it was also difficult on my end, because my professor, he wasn't really that involved because he was such a busy man. So it's like a lot of work that you have to consider, especially when you don't come from a similar background.

That's like the most surprising thing that you found through the designing process of it.

The most surprising thing I don't really know what to say for that surprising thing. The most surprising, Huh? Hmm.

We could move forward with it. Yeah. So can you give me an example of how you apply different Tools, Application and methods to help users overcome the challenges.

Well, I would say that I had to experiment with software's when recording the videos and to also with mic setup as well, like I had to test out like, what's it? What would it listen mean? What would it sound like if I use air pods? Or what is on like, if I use regular earbuds? What would it sound like if I just recorded it straight from, like, my laptop without any mic, because I just wanted to make sure that there was like, no annoying background sounds. And I wanted to make sure that my voice was as clear as possible, because this was also going like the the videos were going to be deployed to children in Kenya. And I wanted to make sure that like, they understood me very clearly. Because I was the only one creating these videos. And nobody knows what I know what I learned from the system. And nobody knows how to use this system. So I had to keep that in mind that they won't be able to contact me or ask me any questions, or they're confused about a video, they're just going to have the video to watch. So I had to be very clear. And also, I wanted the videos to be as inclusive as possible. So for example, I wanted like other people who may be teaching these children with visual impairment to know exactly how to use the studio. So I made sure that the, the software that I used, didn't have like any errors in the videos, like didn't have any glitches, or like it captured everything on the screen that I wanted to be visible to the viewer. So I had to, like do a lot of exploring. But I would say that it was worth it, because I just want I just wanted the videos to be very inclusive, and understandable.

So earlier, you said that there was a lot of cluttering? And can you talk a little bit more than that? Like why cluttering would not be a good idea for visual impairment? Students?

Well, I would say it's because like, when someone's interacting with something, they want it to be intuitive, like they want it to match what other other systems that they use, it's like it's organized in the similar way, or also be frustrated for the user. So like, for someone who can see they can like keep continue looking around to try to find it. Like they can use your eyes to be able to find something but someone with visual impairment can't and you can like create more frustration, and you want it to be more convenient for them. Because what are they going to resort to? If they can't find something, compared to someone who can see they can resort to their, their sight and their previous experience of what they've seen on other systems, but someone with visual impairment can't. And especially as quickly as someone with without visual impairment. I don't know if that makes sense.

So what technique did you use to confirm that your finding was aligned with what other people that like visually impaired? Think?

Well, my, to be honest with you, my professor, he told me that we were going to test out on different groups of people. Like he said, like first we're going to do college students, and then we're going to move on to older people, and then to people with visual impairment. But we didn't do that, because we didn't have enough time. So I wasn't actually able to confirm that this will like be effective for people with visual impairments. But I did like test out the usability of the of the system without tutorial videos. And then once the tutorial videos were introduced, how effective are those videos in understanding better the system? So I just did like a usability test and observed while taking notes.

So in your design, how many iterations did you do and what changes did you make?

Okay, so true for the iterations. I think I did. Like, how many did I do? I think I did three. We try to I don't remember I did like two or three. And what I did is, like for the first when I first made the videos, they weren't the best because I didn't really have. I didn't I'm not like a tech person. So I didn't know what system to use. So I did Slyke found one on my laptop that work, but it didn't capture everything on the screen. And I was also using Canva to edit the videos and Canva creates a lot of glitches. So that was terrible. Like when I edit and created the videos, on my end, they looked good. But for some reason, when I gave them the link, it like created random glitches when I had like previously reviewed it myself. And I think that was like annoying for the participants, because they mentioned it, that there was there was a lot of cuts. And whenever I was observing them, they had like confused faces sometimes when watching the videos. So I fixed that by recording them again on what I do, let me try to remember those a long time ago. Oh, I remember not. So some of the problems that they said there was like cuts. And then some people said that the videos that I made, like I talked too fast, like I went through the walkthrough too fast. And for some, the recording software didn't capture everything on the screen, so people didn't understand or they missed out on things that I showed in the video. And I guess even with the vocabulary words that I explained in the videos, they still didn't, some people just still didn't understand what the intention of a certain features on the system was. So I took note of all of that. And I spoke with my professor as well, I redid the videos for the ones that were like, I spoke too fast. And for the videos I would like they felt like they needed some tuning. So I did that, but then I still wasn't satisfied with the end result. So I redid it using a different recording software. And I used a different editing. And actually made me much happier with the results, because there was no more edit glitches.

I see. So at the end of your project, as there are the other problem that you couldn't get to that you didn't address in your design. We can you repeat that? Yeah. So like, at the end of your project when you deliver your design, okay, the videos, right? Yeah. hasn't any problem does still remain unsolved?

I would say that remains unsolved. Oh, yes. I guess I would say that when trying to explain something to someone with visual impairment, you also have to give them examples so they can get like a better understanding. And because they use their hearing to be I guess they only have their hearing and they don't have their site. So I think it would have been better to give them examples of what different sets of data sounds like. And I didn't do that. And that was specifically because I didn't know how I didn't fully understand the system and that aspect. I didn't understand how sonification the audio side of it plays into it. And because I didn't understand it, I wasn't able to explain that to the to the viewer. So I feel like if I spent more time working on that, then it would have been better. Yeah, giving them examples and do that for now.

So like last question. If you could do it again, what changes would you make?

If I could do it? Again, I would test this out on people with visual impairment because, you know, I tested all of this on people without visual impairments. So I don't know how reliable the tutorial videos I made work. So I would say that the most important thing when you're testing something out is to test it with people tested on people who actually have a disability, not on people who, like don't have that type of background and don't have that type of experiences to to understand the intention of a system because I don't know I just think that it gives him more purpose and more drive and motivation in trying to get the I feel like I would have been I would have put more effort into this if I was actually working with people with disability.

Okay, I think that I In need okay you if there's any more question I will reach out to you okay thanks