

Making Online Surveys Accessible to People with Disabilities



Nathan Wiggin, ComEngage.us

The following is a list of concerns that are found in some communities.

For each one, please indicate if it is a major problem, moderate problem, minor problem, or not a problem at all for people and families in your community.

(If you do not have personal experience with each issue, please answer to the best of your knowledge)

(Community is your neighborhood or among those living near you. It does not mean Bellevue as a whole)

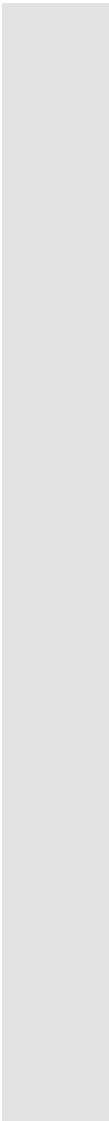
| | Not a problem | Minor problem | Moderate problem | Major problem |
|---|-----------------------|-----------------------|-----------------------|----------------------------------|
| Crime | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input checked="" type="radio"/> |
| Racial or ethnic discrimination | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Lack of money for basic services | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Lack of affordable dental care | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| People not speaking or understanding English well enough to function in the community | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Mental Illness





Overview and Agenda

- Who am I
 - What will NOT be discussed
 - The scope of the problem
 - Packing for the Journey
 - The OG “out of the box”
 - Separate but equal
 - Third time is a charm (sort of)
 - Conclusions – where do we go from here
- 

Who am I and why am I here?



- Who am I?
 - Nathan C. Wiggin
 - Founding member and partial owner of ComEngage.us, LLC.
 - 15+ years in marketing research
 - “Chief Solutions Officer”
 - **NOT AN EXPERT** in accessibility issues!!!
- Why me?
 - Well, because I got thrust into it

What Will NOT be Discussed

- **NO!**
 - The laws and legalities surrounding accessibility
 - I am not a lawyer and I am not YOUR lawyer
 - Specific coding/programming tricks used
 - I'm terrible at coding and don't want people to see it
- Hopefully
 - The scope of the problem
 - The user experience
 - The process
 - Considerations and improvements

Scope of the Problem

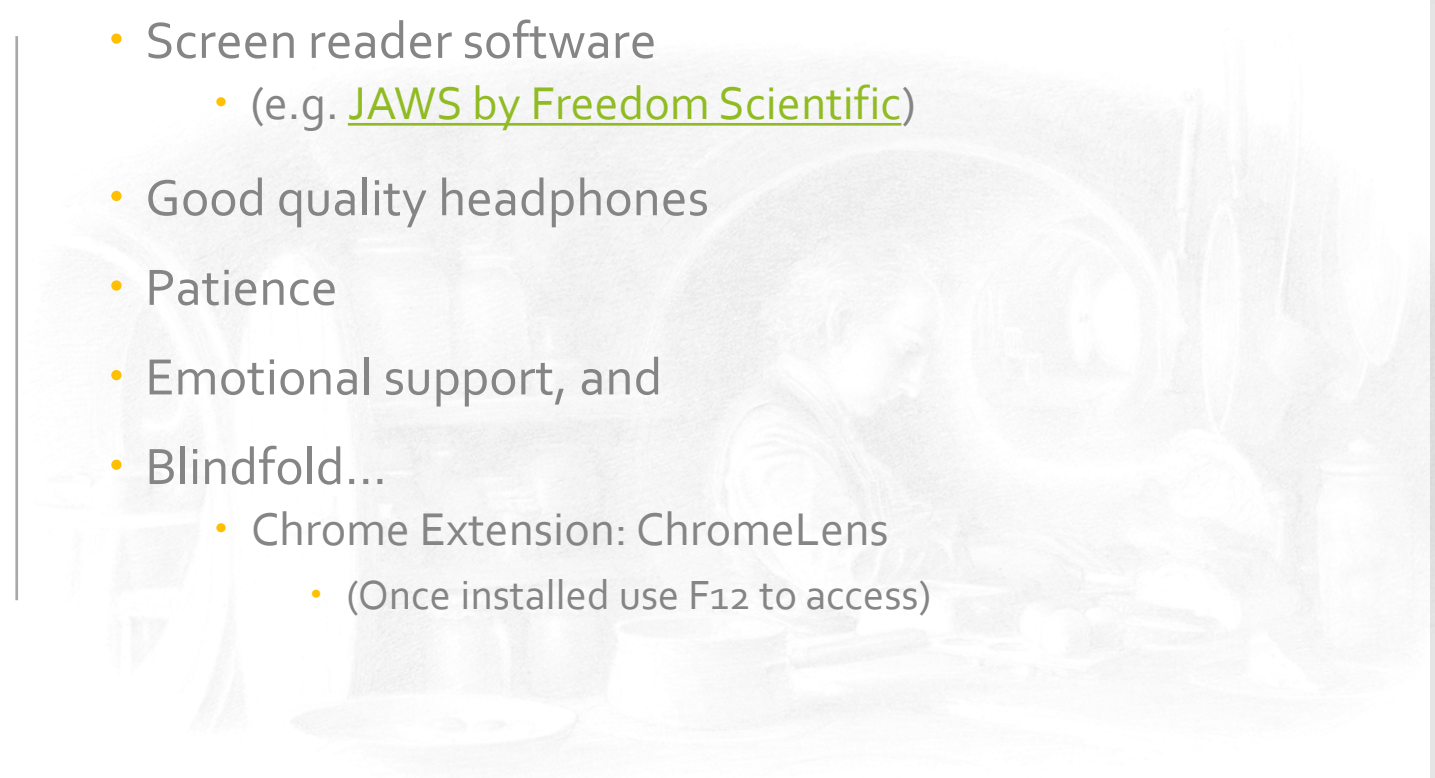
- Missing Data
 - Census report from 2014 indicates roughly 12 million Americans have a serious vision impairment¹
 - Worldwide upwards of 190 million people experience significant disabilities (stats do not break out numbers by type of disability)
 - This population often gets overlooked, especially in the MR communities
- You could get sued
 - United States vs. Astria Health²
 - Trust me...I know

1: [*Americans With Disabilities: 2014 \(census.gov\)*](#)

2: [*United States vs. Astria Health*](#)

Packing for the Journey

- Screen reader software
 - (e.g. [JAWS by Freedom Scientific](#))
- Good quality headphones
- Patience
- Emotional support, and
- Blindfold...
 - Chrome Extension: ChromeLens
 - (Once installed use F12 to access)



The Beginning: Out of the Box

- Let's start by taking a survey: [\[LINK\]](#)



Take Two: Separate but Equal

- Practical Definition
 - Creating two surveys, one for “normal” users and a second taking accessibility issues into account
- Legal Definition
 - The doctrine set forth by the U.S. Supreme Court that sanctioned the segregation of individuals by race in separate but equal facilities but that was invalidated as unconstitutional (Merriam-Webster dictionary)
 - I’m not a lawyer, I’m not YOUR lawyer
- Let’s take a look: [[LINK](#)]



Separate but Equal - Problems

- Practical Problems
 - It's kind of ugly
 - It's obvious it is separate but equal
 - Any and all changes need to be applied in multiple places
 - Back-end is a disaster
- Legal problems
 - It can get you into hot water
- Side note: this also applies (well, until a few days ago) to doing surveys in multiple languages

Write Questionnaire

| Question Name | Question Type |
|----------------|------------------------------------|
| Start | Questionnaire Access and Passwords |
| BLIND | Select |
| Intro | Text |
| TC1EA1 | Select |
| TC1EA2 | Select |
| TC1EA3 | Select |
| CSM1 | Grid |
| CSM2 | Grid |
| CSM6 | Grid |
| CSM1LowVision | Select |
| CSM2LowVision | Select |
| CSM6ALowVision | Select |
| CSM6BLowVision | Select |
| CSM6CLowVision | Select |
| COMPLETE | Terminate |
| TC1 | Select |
| TC5 | Select |

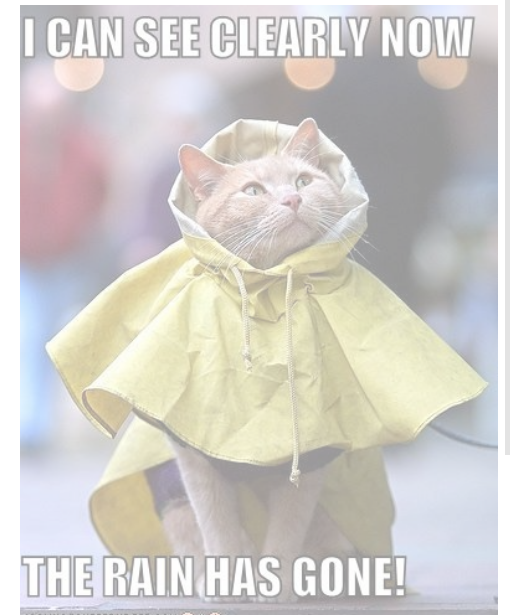


Department
of Redundancy
Department

| CSM1_r1 | CSM2_r1 | CSM6_r1 | CSM6_r2 | CSM6_r3 | CSM6_r4 | CSM1LowVision | CSM2LowVision | CSM6ALowVision | CSM6BLowVision | CSM6CLowVision | G |
|---------|---------|---------|---------|---------|---------|---------------|---------------|----------------|----------------|----------------|---|
| 7 | 4 | 5 | 5 | 5 | 9 | 15 | 1 | 1 | 1 | 1 | 1 |
| 12 | 4 | 6 | 6 | 6 | 9 | | | | | | |
| 6 | 3 | 5 | 4 | 5 | 9 | | | | | | |
| 11 | 4 | 6 | 6 | 6 | 9 | 14 | 4 | 5 | 4 | 4 | |
| 6 | 4 | 5 | 5 | 5 | 9 | | | | | | |
| 1 | 1 | 4 | 2 | 3 | 8 | | | | | | |
| 9 | 6 | 6 | 6 | 6 | 8 | | | | | | |
| 9 | 4 | 5 | 5 | 5 | 8 | 12 | 6 | 7 | 7 | 7 | |
| 6 | 8 | 4 | 2 | 4 | 8 | | | | | | |
| 1 | 8 | 8 | 8 | 8 | 8 | 12 | 6 | 7 | 7 | 7 | |
| 10 | 5 | 5 | 5 | 6 | 8 | | | | | | |
| 10 | 4 | 8 | 8 | 8 | 8 | | | | | | |
| 12 | 6 | 7 | 7 | 6 | 8 | 12 | 6 | 7 | 7 | 7 | |
| 10 | 5 | 6 | 7 | 6 | 8 | | | | | | |
| 12 | 6 | 7 | 7 | 7 | 8 | | | | | | |
| 9 | 4 | 6 | 5 | 6 | 8 | 12 | 6 | 7 | 7 | 7 | |
| 10 | 4 | 6 | 6 | 6 | 8 | | | | | | |
| 9 | 3 | 5 | 3 | 3 | 8 | 12 | 6 | 7 | 7 | 7 | |
| 9 | 8 | 5 | 6 | 7 | 8 | | | | | | |
| 12 | 6 | 1 | 7 | 7 | 7 | 12 | 6 | 7 | 7 | 7 | |
| 6 | 4 | 6 | 6 | 7 | 7 | | | | | | |
| | | | | | | 12 | 6 | 7 | 7 | 7 | |

Third Time is a Charm (*sort of*)

- Our goals
 - Get rid of the separate but equal version
 - Combine everything into one survey with one set of questions and one set of variables
 - Make the experience easier for everyone
- Let's take a look: [[LINK](#)]
- Unexpected challenges
 - Screen readers read left to right, top to bottom

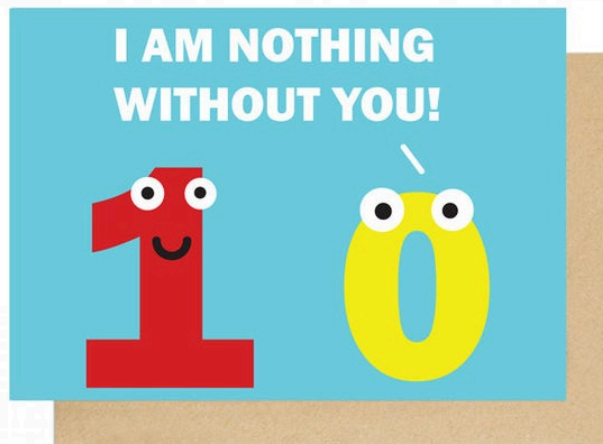


What's Next?

- Important Take-Aways
 - We take site/vision for granted
 - Blind users don't use mice
 - Try it yourself
 - Get an expert
 - Freedom Scientific
 - Save and comment your code
 - Use the questionnaire library!
- What's next
 - Continuing refinement so it is easier for proficient users to navigate
 - Incorporating same flow/logic using multiple languages while also ensuring accessibility is being maintained
 - Our software vendor recently released a major update that drastically improved out-of-the-box accessibility and we are continually working together to improve (the real winner if you ask me)
 - Look into other accessibility barriers and how they can best be addressed



Special Thanks



- Out Client, Sound Transit
- Mary-Ann Mendez
- Sawtooth Support

- My Contact Info:
 - Nathan@Comengage.us
 - <https://calendly.com/engage-nate>