Olin College of Engineering | Microsoft | TEXAS The University of Texas at Austin | Olin 2020-2021 Microsoft SCOPE Team | AI4A Grant | Team

Seeing UI: Researching Web-Accessibility Improvements for Screen Reader Users

The web is **largely inaccessible** for people who are blind. Often requiring blind users to,

"***use lots of work-arounds to cling to dear life for [their] independence***"

Web inaccessibility not only makes it more difficult for people who are blind to use the web, but it is **dehumanizing** and **compromises their agency**.

97.4%

of the top 1 million home pages had automatically detectable **accessibility failures**


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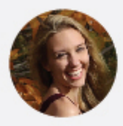
Strategic Planner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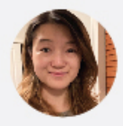
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Project Description

"Which web accessibility problems are **most important to solve** for people who are blind?" We...

Interviewed 16 people who are blind

Surveyed 38 people who are blind

Analyzed **Quantitative & Qualitative** Data

Human-Centered Design Insights

45%

prioritized **shopping websites** to be fixed first

Website Type: Which is Most Important?

Interviewees want **shopping websites** to become more accessible, with one user saying,

"this is an option that should open doors but is shutting me out even more"

As well as shopping websites, **banking and job search** websites as important areas for accessibility improvement.

Frustrating or Completely Blocking: What Kind of Problem Should be Fixed?

Blind users want **issues that fully block their progress** to be prioritized over common minor frustrations.

One screen reader user described their experience as,

"I feel as though I have run into a brick wall while rushing ahead at high speed"

Clutter: Rethinking Navigation

Clutter **looms over every web interaction** for the blind community. It can shift screen reader focus causing disorientation and confusion.

As one interviewee put it, it is

"kind of like walking through a mall with multiple kids, and they all see something they want."

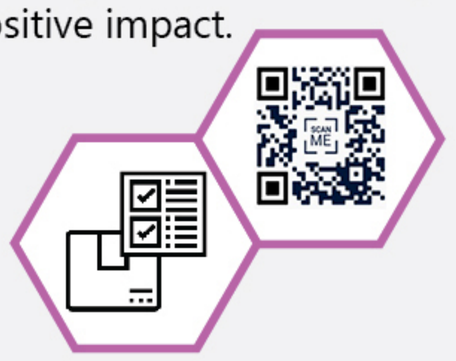
Where Can Our Insights Take Us?

Task-Specific Headings

Shopping experiences should allow screen reader users to **skip from one search result title to the next**, without having to key past details like ratings.

Form Error Handling

Web forms present disproportionate difficulty for blind web users. A machine learning algorithm that could **locate and draw the screen reader focus to an error message** could have a huge positive impact.



Pop-ups

Making it **easier to navigate pop-ups** with screen readers is an impactful problem to solve due to the widespread use of pop-ups on various website types.