

## Grounding of Questionnaire Design in Prior Work

**Table 1. Questions adopted from Lazar et al.'s study**

<i>Survey questions from Lazar et al.</i>	<i>Selected questions adopted for this study</i>
<p>Have you ever created a website that is accessible for users with visual impairments?</p> <ul style="list-style-type: none"> <li><input type="radio"/> Yes</li> <li><input type="radio"/> No</li> <li><input type="radio"/> Not Sure</li> </ul>	<p><b>[Practical Experiences]</b>            Have you ever created a website or app that is accessible for users with visual impairments (blindness, low vision, and/or colour blindness)?</p> <ul style="list-style-type: none"> <li><input type="radio"/> Yes</li> <li><input type="radio"/> No</li> <li><input type="radio"/> Not sure</li> </ul> <p><b>[Similar question(s) added by researcher]</b>            Have you ever created a website or app that is accessible for seniors?</p> <ul style="list-style-type: none"> <li><input type="radio"/> Yes</li> <li><input type="radio"/> No</li> <li><input type="radio"/> Not sure</li> </ul>
<p>Are you familiar with the Section 508 laws by the U. S. Federal government or similar laws from other governments around the world (i.e., Portugal, Canada, England, Australia)?</p> <ul style="list-style-type: none"> <li><input type="radio"/> Yes</li> <li><input type="radio"/> No</li> <li><input type="radio"/> Not Sure</li> </ul>	<p><b>[General Understanding and Awareness]</b>            Are you familiar with accessibility legislations, such as Accessibility for Ontarians with Disabilities Act (AODA) by the Ontario government in Canada, Americans with Disability Act (ADA) and Section 508 by the U. S. Federal government, or similar laws from other governments around the world (i.e., England, Australia)?</p> <ul style="list-style-type: none"> <li><input type="radio"/> Yes (please specify which laws)</li> <li><input type="radio"/> No</li> <li><input type="radio"/> Not sure</li> </ul>
<p>Is your website subject to the U.S. Federal Government's rules on accessibility?</p> <ul style="list-style-type: none"> <li><input type="radio"/> Yes</li> <li><input type="radio"/> No</li> <li><input type="radio"/> Not Sure</li> </ul>	

<i>Survey questions from Lazar et al.</i>	<i>Selected questions adopted for this study</i>
<p>Is the website that you are currently overseeing accessible to users with visual impairments?</p> <ul style="list-style-type: none"> <li><input type="radio"/> Yes</li> <li><input type="radio"/> No</li> <li><input type="radio"/> Not Sure</li> </ul>	
<p>Are you aware that there are software tools that can check your website to see if it is accessible, and provide useful feedback?</p> <ul style="list-style-type: none"> <li><input type="radio"/> Yes</li> <li><input type="radio"/> No</li> <li><input type="radio"/> Not Sure</li> </ul>	<p><b>[General Understanding and Awareness]</b></p> <p>Are you aware that there are accessibility tools that can check your website to see if it is accessible, and provide useful feedback?</p> <ul style="list-style-type: none"> <li><input type="radio"/> Yes (please specify which tools)</li> <li><input type="radio"/> No</li> <li><input type="radio"/> Not sure</li> </ul>
<p>Have you ever used a free web-based accessibility tool, e.g., Bobby?</p> <ul style="list-style-type: none"> <li><input type="radio"/> Yes</li> <li><input type="radio"/> No</li> <li><input type="radio"/> Not Sure</li> </ul>	
<p>Have you ever used a non-web-based accessibility tool, e.g., A-Prompt, INFOCUS, PageScreamer?</p> <ul style="list-style-type: none"> <li><input type="radio"/> Yes</li> <li><input type="radio"/> No</li> <li><input type="radio"/> Not Sure</li> </ul>	
<p>Have you ever tested your website using a screen reader? (A screen reader reads the text out loud in computer-synthesized speech.)</p> <ul style="list-style-type: none"> <li><input type="radio"/> Yes</li> <li><input type="radio"/> No</li> <li><input type="radio"/> Not Sure</li> </ul>	
<p>Does your organization have any plans to make your website accessible to users with visual impairments in the future?</p> <ul style="list-style-type: none"> <li><input type="radio"/> Yes</li> <li><input type="radio"/> No</li> <li><input type="radio"/> Not Sure</li> </ul>	

<i>Survey questions from Lazar et al.</i>	<i>Selected questions adopted for this study</i>
<p>Are you familiar with any of the following accessibility guidelines from the Web Accessibility Initiative? (Check all that apply):</p> <ul style="list-style-type: none"> <li><input type="radio"/> Web Content Accessibility Guidelines</li> <li><input type="radio"/> Authoring Tool Accessibility Guidelines</li> <li><input type="radio"/> User Agent Accessibility Guidelines</li> <li><input type="radio"/> Not familiar with any accessibility guidelines</li> </ul>	<p><b>[General Understanding and Awareness]</b></p> <p>Are you familiar with any of the following accessibility guidelines from the Web Accessibility Initiative (WAI)? (Check all that apply.)</p> <ul style="list-style-type: none"> <li><input type="radio"/> Web Content Accessibility Guidelines (WCAG)</li> <li><input type="radio"/> Authoring Tool Accessibility Guidelines (ATAG)</li> <li><input type="radio"/> User Agent Accessibility Guidelines (UAAG)</li> <li><input type="radio"/> I am not familiar with any accessibility guidelines</li> </ul> <p><b>[Similar question(s) added by researcher]</b></p> <p>Are you familiar with the senior-friendly design guidelines published by the National Institute on Aging and the National Library of Medicine?</p> <ul style="list-style-type: none"> <li><input type="radio"/> Yes</li> <li><input type="radio"/> No</li> <li><input type="radio"/> Not Sure</li> </ul> <p>Are you familiar with any other senior-friendly guidelines?</p> <ul style="list-style-type: none"> <li><input type="radio"/> Yes (please specify which guidelines)</li> <li><input type="radio"/> No</li> <li><input type="radio"/> Not sure</li> </ul>

<i>Survey questions from Lazar et al.</i>	<i>Selected questions adopted for this study</i>
<p>What do you think is the biggest challenge of making a website accessible for users with visual impairments? Explain.</p>	<p><b>[Motivations and Challenges]</b>  What do you think are the challenges of making websites or apps senior-friendly? (Check all that apply.)</p> <ul style="list-style-type: none"> <li><input type="radio"/> Lack of awareness regarding accessibility for seniors</li> <li><input type="radio"/> Lack of training/knowledge</li> <li><input type="radio"/> Lack of senior-friendly guidelines</li> <li><input type="radio"/> Lack of support from management</li> <li><input type="radio"/> Lack of human resources</li> <li><input type="radio"/> Accessibility for seniors is not a requirement for the organization</li> <li><input type="radio"/> Accessibility for seniors is not a requirement for the target group/customer</li> <li><input type="radio"/> Accessibility for seniors is outside the job description</li> <li><input type="radio"/> Accessibility for seniors is not seen as a personal responsibility</li> <li><input type="radio"/> Time restrictions</li> <li><input type="radio"/> Budget restrictions</li> <li><input type="radio"/> No legal repercussions</li> <li><input type="radio"/> Other (please specify)</li> <li><input type="radio"/> Not sure</li> </ul> <p><b>[Similar question(s) added by researcher]</b>  Please share your opinions on how the above challenges affect the design of senior-friendly websites or apps.</p>
<p>Who do you think should be responsible for making a website accessible for users with visual impairments? (Check all that apply.)</p> <ul style="list-style-type: none"> <li><input type="radio"/> Webmaster</li> <li><input type="radio"/> Systems Analyst/Engineer</li> <li><input type="radio"/> Programmer</li> <li><input type="radio"/> Help Desk Manager</li> <li><input type="radio"/> Disability Compliance Office</li> </ul> <p>Why?</p>	

Survey questions from Lazar et al.	Selected questions adopted for this study
<p>What factors would influence you to make your current site (government, corporate, and/or personal) accessible for users with visual impairments?</p>	<p><b>[Motivations and Challenges]</b>  What factors would influence your organization or your independent practice to make their designs accessible for seniors?  (Check all that apply.)</p> <ul style="list-style-type: none"> <li><input type="radio"/> Abiding by the laws</li> <li><input type="radio"/> Being ethical</li> <li><input type="radio"/> Being inclusive</li> <li><input type="radio"/> Customer requirements</li> <li><input type="radio"/> Developing better products</li> <li><input type="radio"/> Finding research opportunities</li> <li><input type="radio"/> Increasing income</li> <li><input type="radio"/> Organizational requirements</li> <li><input type="radio"/> Search engine optimization</li> <li><input type="radio"/> Other (please specify)</li> <li><input type="radio"/> Not sure</li> </ul> <p><b>[Motivations and Challenges]</b>  What factors would influence you personally to make your designs accessible for seniors?  (Check all that apply.)</p> <ul style="list-style-type: none"> <li><input type="radio"/> Abiding by the laws</li> <li><input type="radio"/> Being ethical</li> <li><input type="radio"/> Being inclusive</li> <li><input type="radio"/> Customer requirements</li> <li><input type="radio"/> Developing better products</li> <li><input type="radio"/> Finding research opportunities</li> <li><input type="radio"/> Increasing income</li> <li><input type="radio"/> Organizational requirements</li> <li><input type="radio"/> Search engine optimization</li> <li><input type="radio"/> Other (please specify)</li> <li><input type="radio"/> Not sure</li> </ul>

<i>Survey questions from Lazar et al.</i>	<i>Selected questions adopted for this study</i>
When you make updates to your website, do you consider the factor of making the site accessible to all users?	<p><b>[Practical Experiences]</b> Do you consider accessibility in the design projects you are involved in?</p> <ul style="list-style-type: none"> <li><input type="radio"/> Yes</li> <li><input type="radio"/> No</li> <li><input type="radio"/> Not sure</li> </ul> <p><b>[Similar question(s) added by researcher]</b> Do you consider senior-friendliness in the design projects you are involved in?</p> <ul style="list-style-type: none"> <li><input type="radio"/> Yes</li> <li><input type="radio"/> No</li> <li><input type="radio"/> Not sure</li> </ul>
Do you consider ethics in planning and/or updating your current websites? Why or Why not?	

**Table 2. Questions adopted from Freire et al.'s study**

<i>Survey questions from Freire et al.</i>	<i>Selected questions adopted for this study</i>
<p>HTML and CSS skills</p> <ul style="list-style-type: none"> <li><input type="radio"/> None</li> <li><input type="radio"/> Basic</li> <li><input type="radio"/> Intermediate</li> <li><input type="radio"/> Advanced</li> <li><input type="radio"/> Expert</li> </ul>	
<p>Awareness of problems faced by blind people using Internet</p> <ul style="list-style-type: none"> <li><input type="radio"/> Did not know that the blind could use the Web</li> <li><input type="radio"/> I have heard about blind using the Web, but do not know how</li> <li><input type="radio"/> I know how the blind use the Web, but not how to create pages for them</li> <li><input type="radio"/> I know how the blind use the Web, and have created pages for them</li> <li><input type="radio"/> I know how the blind use the Web, I always make adequated pages</li> </ul>	<p><b>[General Understanding and Awareness]</b> Describe your understanding of how seniors use websites.</p> <ul style="list-style-type: none"> <li><input type="radio"/> I don't know if seniors use websites</li> <li><input type="radio"/> I am aware that seniors can use websites, but I don't know how they use them</li> <li><input type="radio"/> I know how seniors use websites, but I don't know how to design for them</li> <li><input type="radio"/> I know how seniors use websites and how to design for them, but I haven't designed for them</li> <li><input type="radio"/> I know how seniors use websites and I have designed for them</li> </ul>
<p>Assistive technologies known or already used</p> <ul style="list-style-type: none"> <li><input type="radio"/> Screen reader</li> <li><input type="radio"/> Screen amplifier</li> <li><input type="radio"/> Braille printer</li> <li><input type="radio"/> Text-only browser</li> <li><input type="radio"/> Alternative keyboard</li> <li><input type="radio"/> Voice navigator</li> <li><input type="radio"/> Alternative mice</li> <li><input type="radio"/> Other</li> </ul>	<p><b>[General Understanding and Awareness]</b> Are you familiar with any of the following assistive technologies? (Check all that apply.)</p> <ul style="list-style-type: none"> <li><input type="radio"/> Screen reader</li> <li><input type="radio"/> Screen magnifier</li> <li><input type="radio"/> Braille-based tools (e.g. printers, embossed printers)</li> <li><input type="radio"/> Text-only browser</li> <li><input type="radio"/> Alternative keyboard</li> <li><input type="radio"/> Alternative mouse and joystick</li> <li><input type="radio"/> Speech recognition tools (e.g. Siri)</li> <li><input type="radio"/> Other (please specify)</li> <li><input type="radio"/> I am not familiar with any assistive technology</li> </ul>

<i>Survey questions from Freire et al.</i>	<i>Selected questions adopted for this study</i>
<p>Knowledge of Decree/Law No. 5.296/2004 and its implications to the Web</p> <ul style="list-style-type: none"> <li>○ Never heard about it</li> <li>○ I have heard, to barely know</li> <li>○ I know the decree, but not its Web related issues</li> <li>○ I know the decree, know its implications, but do not follow it</li> <li>○ I know the decree, know its implications, and follow it</li> </ul>	<p><b>[General Understanding and Awareness]</b> Describe your level of familiarity with AODA, ADA, Section 508, or with similar laws from other governments.</p> <ul style="list-style-type: none"> <li>○ I know the relevant law(s) and its web-related implications, and follow it</li> <li>○ I know the relevant law(s) and its web-related implications, but don't follow it</li> <li>○ I know the relevant law(s), but not its web-related implications</li> <li>○ I have heard about it / I barely know about it</li> <li>○ I have never heard about it</li> </ul>
<p>Knowledge on the W3C Accessibility Guidelines</p> <ul style="list-style-type: none"> <li>○ None</li> <li>○ Basic</li> <li>○ Intermediate</li> <li>○ Advanced</li> <li>○ Expert</li> </ul>	
<p>Training in accessibility received by participants</p> <ul style="list-style-type: none"> <li>○ None</li> <li>○ Lecture</li> <li>○ High school technical course</li> <li>○ Undergraduate course</li> <li>○ Graduate course</li> <li>○ Web design free course</li> <li>○ Training in organization</li> <li>○ Extension course</li> <li>○ Other</li> </ul>	<p><b>[General Understanding and Awareness]</b> What kind of professional training or education have you received in web accessibility? (Check all that apply.)</p> <ul style="list-style-type: none"> <li>○ Undergraduate courses</li> <li>○ Graduate courses</li> <li>○ Online courses</li> <li>○ Training in the workplace (current or past)</li> <li>○ Other (please specify)</li> <li>○ I didn't receive any professional training or education in web accessibility</li> </ul>



<p>Accessibility Evaluation Forms performed by the participants</p> <ul style="list-style-type: none"> <li>○ None</li> <li>○ Test with users with disabilities</li> <li>○ Test with older adults</li> <li>○ Manual guideline review</li> <li>○ Automatic tools</li> <li>○ HTML validation</li> <li>○ CSS validation</li> <li>○ Inspections with assistive technologies</li> <li>○ Other</li> </ul>	<p><b>[Practical Experiences]</b></p> <p>What evaluation techniques have you used to test your designs for accessibility? (Check all that apply.)</p> <ul style="list-style-type: none"> <li>○ Conduct usability tests with users with disabilities</li> <li>○ Conduct usability tests with seniors</li> <li>○ Test with automatic accessibility assessment tools</li> <li>○ Check compliance according to accessibility guidelines</li> <li>○ HTML validation</li> <li>○ CSS validation</li> <li>○ Test with assistive technologies</li> <li>○ Other (please specify)</li> <li>○ I don't evaluate my designs for accessibility</li> </ul> <p><b>[Similar question(s) added by researcher]</b></p> <p>What evaluation techniques have you used to test your designs for senior-friendliness? (Check all that apply.)</p> <ul style="list-style-type: none"> <li>○ Conduct usability tests with users with disabilities</li> <li>○ Conduct usability tests with seniors</li> <li>○ Test with automatic accessibility assessment tools</li> <li>○ Check compliance according to accessibility guidelines</li> <li>○ HTML validation</li> <li>○ CSS validation</li> <li>○ Test with assistive technologies</li> <li>○ Other (please specify)</li> <li>○ I don't evaluate my designs for senior-friendliness</li> </ul> <p>What research methods have you used to ensure your design meets the requirements of users with disabilities? (Check all that apply.)</p> <ul style="list-style-type: none"> <li>○ Follow accessibility guidelines (please specify which guidelines)</li> </ul>
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Survey questions from Freire et al.	Selected questions adopted for this study
	<ul style="list-style-type: none"> <li>○ Follow senior-friendly design guidelines (please specify which guidelines)</li> <li>○ Conduct interviews with users with disabilities</li> <li>○ Conduct surveys with users with disabilities</li> <li>○ Generate personas based on users with disabilities</li> <li>○ Conduct usability tests with users with disabilities</li> <li>○ Conduct participatory design sessions with users with disabilities</li> <li>○ Conduct heuristic evaluations</li> <li>○ Other (please specify)</li> <li>○ I don't use any research methods to design for users with disabilities</li> </ul> <p>What research methods have you used to ensure your design meets the requirements of seniors? (Check all that apply.)</p> <ul style="list-style-type: none"> <li>○ Follow accessibility guidelines (please specify which guidelines)</li> <li>○ Follow senior-friendly design guidelines (please specify which guidelines)</li> <li>○ Conduct interviews with seniors</li> <li>○ Conduct surveys with seniors</li> <li>○ Generate personas based on seniors</li> <li>○ Conduct usability tests with seniors</li> <li>○ Conduct participatory design sessions with seniors</li> <li>○ Conduct heuristic evaluations</li> <li>○ Other (please specify)</li> <li>○ I don't use any research methods to design for seniors</li> </ul>
<p>Regarding accessibility in the projects in which the participants are involved in</p> <ul style="list-style-type: none"> <li>○ Yes</li> <li>○ No</li> <li>○ Not sure</li> </ul>	

<i>Survey questions from Freire et al.</i>	<i>Selected questions adopted for this study</i>
<p>Reasons for regarding accessibility in the projects</p> <ul style="list-style-type: none"> <li>○ Legal factors</li> <li>○ Personal motivation</li> <li>○ Organization requirement</li> <li>○ Customer requirement</li> <li>○ Target public</li> <li>○ Addressing more customers</li> <li>○ Good reputation</li> <li>○ Mobile devices</li> <li>○ Web standards</li> <li>○ Other</li> </ul>	
<p>Reasons for not regarding accessibility in the projects</p> <ul style="list-style-type: none"> <li>○ Law does not apply</li> <li>○ Not a requirement for organization</li> <li>○ Not a requirement for customers</li> <li>○ Lack of training</li> <li>○ High costs of tools</li> <li>○ Time</li> <li>○ Cost</li> <li>○ Lack of material in Portuguese</li> <li>○ Conflict with layout</li> <li>○ Lack of language skills</li> <li>○ Focus on other public</li> <li>○ Other</li> </ul>	<p><b>[Practical Experiences]</b> What are your reasons for not considering accessibility in your projects?</p> <p><b>[Similar question(s) added by researcher]</b> What are your reasons for not considering senior-friendliness in your projects?</p>
<p>Relevance of accessibility in the participants' organizations</p>	<p><b>[Motivations and Challenges]</b> How is accessibility for seniors perceived in your organization or your independent practice?</p> <ul style="list-style-type: none"> <li>○ Very important</li> <li>○ Fairly important</li> <li>○ Important</li> <li>○ Less important</li> <li>○ Not important</li> <li>○ Not sure</li> </ul>
<p>Suggestions to improve accessibility in the Web</p>	