Web Accessibility in Uganda: A study of Webmaster Perceptions

Rehema Baguma, Tom Wanyama, Patrick van Bommel and Patrick Ogao

Despite the fact that the proportion of people with disabilities in society has been increasing, many websites have remained inaccessible to them. In Uganda, a study on government agency websites established that 100% of the studied websites were not accessible to people with disabilities. While guidelines and tools for developing accessible websites exist in the public domain, research surrounding perceptions of IT workers about Web accessibility and how they interact with the guidelines at country level do not exist. In this paper, we examine the practice and perceptions of webmasters in Uganda on the accessibility of government websites and what can be done to improve the situation. This understanding is important to increase on the knowledge of why government websites in Uganda are not accessible and what the stakeholders can do to improve the situation.

Introduction

A considerable number of users of the Web have various types of disabilities such as vision, hearing, motor and cognitive impairments (Lazar et al., 2004). World wide, people with disabilities are estimated at 20% of the total world population (Shi, 2005). Web users with disabilities rely on assistive technologies to use the Web effectively. Such technologies include screen readers, voice recognition equipment, alternative pointing devices, alternate keyboards and refreshable braille displays (Lazaar et al., 2004). An accessible website is one that is sufficiently flexible to be used by all assistive technologies just as accessible buildings offer curb cuts, ramps, and elevators to allow people with disabilities to enter and navigate through the building with ease (Lazar et al., 2004).

Currently, there are a number of guidelines and tools Web designers and webmasters can use to make their websites accessible to people with disabilities. Such guidelines include the Web Content Accessibility guidelines (WCAG) developed by the World Wide Web Consortium (W3C), the US government’s Section 508 Initiative, Americans with Disabilities Act (ADA), Australians with Disabilities Act and the National Institute on Ageing Guidelines (NIA). Similar guidelines exist in Canada, UK and Portugal. In addition to the guidelines, automated software tools that help in finding accessibility flaws in websites before the sites are publicly posted, are available. Such tools include bobby, ramp, infocus and a-prompt. More so new versions of web development tools such as dreamweaver and front page include tools that assist developers with accessibility related issues (Lazaar et al., 2004).
Given that the guidelines and tools for realizing accessible websites are available, it would be expected for most websites to be accessible to people with disabilities. But the reverse is true even in countries where Web accessibility is a legal requirement (Lazar et al., 2004). World wide, a large percentage of websites (70–98%) are not accessible. In a study conducted by Nielsen (Nielsen, 2001), the usability of most current websites is on average three times higher for users without disabilities than for those who are blind or have low vision. In another research project published by Forrester Research (Huang, 2003), it was found that only one in four e-commerce sites surveyed met the minimum requirements provided by the Web Content Accessibility Guidelines (WCAG). Even in the public sector of the U.S., where Web accessibility is a legal mandate, a significant number of official websites still contain features that do not provide reasonable access to users with disabilities. Although Section 508 requires agencies to ensure that persons with disabilities have equal access to and use of federal e-government websites, widespread accessibility on e-government sites has not materialized since the 2001 compliance deadline (Jaeger, 2006). Studies of the accessibility of federal e-government sites have found low levels of accessibility, with usually less than one-third of sites being labelled accessible by these studies (Jaeger, 2006). In Taiwan, 83% of central government websites are not accessible to people with disabilities especially visual disabilities (Huang, 2003). In Uganda, a study on the accessibility of government websites revealed that only 14% of the studied websites provided some level of accessibility (7.1%). However, it was not clear whether the 7.1% conformance was out of a deliberate intention to make the sites accessible to people with disabilities or rather accidental or a result of other design considerations (Baguma et al., 2007).

Given that all the resources for making websites accessible are available, it is unclear why many websites have remained inaccessible. While guidelines for Web accessibility exist, research surrounding the effectiveness of those guidelines, how IT workers interact with those guidelines, and reasons for implementing accessibility, do not exist (Lazar et al., 2004). The people who decide whether a site will be built for accessibility or not are the Web developers and the clients. It is likely that if neither of these groups of people are aware of or passionate about Web accessibility, then a website will be built to be inaccessible (Lazar et al., 2004). However, the person that has the greatest influence on an existing website is the webmaster (Lazar et al., 2004). The goal of this research was to examine why government websites in Uganda are not accessible to people with disabilities. The researchers created a survey to learn more about webmasters’ perceptions and knowledge on Web accessibility. The results of this research are expected to increase on the knowledge about why government websites in Uganda are not accessible and how this situation can be improved.

The remainder of this paper is organized into five sections as follows: Web accessibility guidelines, related work, Web accessibility integration model, findings, discussion of the findings, conclusion and future work.
Web accessibility guidelines

To-date, a number of guidelines that Web designers and webmasters can follow to make their websites accessible to people with disabilities are available. A summary of the most prominent guidelines and their approach to realising Web accessibility follows:

**The Web Content Accessibility Guidelines (WCAG):** WCAG is a set of international Web Accessibility guidelines produced by the World Wide Web Consortium (W3C) for the design of accessible Web sites (Shi, 2005). The guidelines address two general themes— that is ensuring graceful transformation to accessible designs, and making content understandable and navigable. They are composed of fourteen specific guidelines, with each including the rationale behind the guideline and a list of checkpoint definitions. Each checkpoint is assigned a priority level—that is one, two or three based on the checkpoint’s impact on accessibility.

The WCAG are intended for all Web content developers (page authors and site designers) and for developers of authoring tools such as HTML editors. They are recognized as the authority for designing and creating accessible web-sites, and have been used by several software developers to develop accessibility authoring and checking tools such as bobby (www.cast.org/bobby/) (Huang, 2003; Shi, 2005).

**The Americans with Disabilities Act (ADA) of 1990:** ADA includes several provisions that require employers to provide “reasonable accommodation” and mechanisms for “effective communication” to workers with disabilities. This law is applicable to the entire nation, not only to entities that receive federal funds. It was originally focused on areas such as employment, public accommodations, and telecommunication services. However, the subsequent growth of the Internet for communication in education, business, government and work settings has now broadened the scope to cover the Internet and the World Wide Web (Chiang et al., 2005).

**Section 508 of the Rehabilitation Act**

Section 508 of the Rehabilitation Act on the other hand defines the processes used by the U.S. federal government to procure electronic and information technology systems. One of the central aspects of the law is to ensure accessibility of electronic and information technology systems to people with disabilities who are federal employees or members of the general public (Huang, 2003). Section 508 has a lot of similarity with the Web Content Accessibility Guidelines (WCAG). This is possibly because it is based on the U.S. Access Board’s Electronic and Information Technology Accessibility Standards, which are in turn based on the WCAG. This relationship has made it an important legal reference for Web accessibility in the U.S (Jaeger, 2006).

Both ADA and Section 508 make reference to WCAG as a more comprehensive Web accessibility resource developed by the W3C that helps designers make web pages as accessible as possible to the widest range of users, including users with...
disabilities. In fact, Section 508 contains more or less the same guidelines as the WCAG but in a more compressed form. The major difference between the two sets of guidelines is that Section 508 is legally binding in the U.S. where as WCAG is an open non-legally binding Web Accessibility specification.

**Australian Disability Discrimination Act (ADA):** The Australian Disability Discrimination Act makes it unlawful for a service provider to discriminate against a person with disability by refusing to provide any service, which it provides to members of the public. A service provider is required to take reasonable steps to change a practice, which makes it unreasonably difficult for people with disabilities to make use of its services. According to the Australian Disability Discrimination Act 1992, inaccessible websites or pages are a sort of discrimination against people with disabilities and are thus illegal in Australia (Shi, 2005). ADA Australia is more like ADA US. They both existed before emergence of the Web technology, which they later integrated into the scope covered.

**National Institute on Ageing (NIA) Guidelines for making senior friendly Websites:** NIA guidelines were developed by the National Institute on Aging (NIA) in conjunction with the National Library of Medicine (NLM) to improve the usability of Web pages for older adults (Becker, 2004). These guidelines provide for the effective design of a Web page by taking into account font sizes, font types, colors, and styles; background images and colors; vertical scrolling; and text formats, among other design issues in order to make them accessible to people with ageing vision. However, the NIA guidelines only cover enhancing accessibility for low vision Web users, a condition commonly suffered by ageing adults. Largely its recommendations are covered in the Web Content Accessibility Guidelines, although not as explicitly as in the NIA. Unlike other guidelines, it does not make reference to WCAG.

**Accessibility Integration Model (WAIM):** WAIM was created by Lazar and colleagues (Lazar et al., 2004) to help understand the problem of Web accessibility. It highlights the various influences on the accessibility or inaccessibility of a website. The purpose of the model is to guide researchers to investigate all the different angles of accessibility and to learn how to make sites more accessible. The Web Accessibility Integration Model has three categories of influences on Web accessibility namely: societal foundations, stakeholder perceptions, and Web development.

Societal foundations is concerned with how much web accessibility is valued in a particular society such as if accessibility is part of any national curriculum in Computer Science (CS), availability of training in accessibility and laws or policies that mandate Web accessibility. Stakeholders on the other hand are the people who decide whether a site will be built for accessibility or not. These include Web developers and the clients. Their perceptions are influenced by societal foundations such as education, government policy and statistics in the public media. The Web development part concerns the available guidelines and tools. Guidelines and tools such as WCAG help not only Web developers and webmasters with guidance, but
also help provide the current “working definition” for web accessibility. Good, well-written guidelines, and powerful software tools are likely to help improve levels of accessibility. Poorly written, confusing guidelines, and hard to use or unclear software tools are likely to keep sites from becoming accessible (Lazar et al., 2004).

In Uganda, the influence of societal foundations towards making websites accessible is still lacking. Web accessibility is not part of any computing curriculum and there are no relevant government polices. The perceptions of stakeholders are not known. Although Web accessibility guidelines and tools such as WCAG and Bobby are available in the public domain, in Uganda, it is not known how much webmasters know about such guidelines and tools, if they are using them and why they are using them or why they are not using them.

Figure 1 presents a graphical representation of the three influences, the components within each influence and how the influences are related to each other.

Fig 1: Web Accessibility Integration Model adapted from Lazar et al., (2004)

Related work

Lazar and colleagues (lazar et al., 2004) in a study on the perceptions of webmasters found that 66% of webmasters had ever created accessible websites, 56% had their current websites accessible to people with visual disabilities, 27% had never created
an accessible website, and 0.5% were not sure. However, the geographical scope of this study was general and mainly covered webmasters who were known or in the reach of the authors. 45% of the webmasters were from USA, 24% from other countries and 41% did not indicate their countries of origin.

Other studies on Web accessibility have been focused on the state of accessibility of e-applications such as e-tourism, e-government, e-commerce and e-education (Shi, 2005; Abanumy, 2005). So far, no such a study has been carried out on a specific country, later on Uganda. In this study, we examine the knowledge, Web design practices and perceptions of webmasters in Uganda in respect to Web accessibility. To achieve this, a survey was conducted on 30 webmasters of government agency websites. Results of the survey are presented in the next section.

Methodology

The objective of the study was to learn more about why webmasters in Uganda do not make their websites accessible and what can be done to improve the situation. To realise the set objective, a survey was created, with questions asking webmasters of government agency websites, their knowledge and perceptions of Web accessibility. After development, the survey was pre-tested for clarity, and posted to known webmasters’ email addresses and potential mailing lists. The mailing lists chosen had either a national scope or wider scope but still with a substantial number of local subscribers that include webmasters. Webmasters that were known to the research team were also invited to participate. Some questionnaires were physically delivered to potential respondents and physically picked. The mailing lists used included I-Network (i-network@dgroups.org) (http://www.i-network.or.ug/) and Women of Uganda Network (WOUGNET) (wougnet-l@wougnet.org) (http://www.wougnet.org/). Guidelines for good Web survey usability were followed (Eysenbach and Wyatt, 2006). The survey comprised both close ended and open ended questions and a copy of the survey questionnaire is included as appendix A. The next section presents results of the survey.

Findings

This section presents results of the survey.

Participation: The survey questionnaire was administered to 30 webmasters of government agency websites. Out of the 30, 15 responded including 8 from ministries and 7 from parastatals. From each agency, one webmaster participated.

Table 1: Participation

<table>
<thead>
<tr>
<th>Nature of Government Agency</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministries</td>
<td>8</td>
<td>53%</td>
</tr>
<tr>
<td>Parastatals</td>
<td>7</td>
<td>47%</td>
</tr>
</tbody>
</table>
The first eleven questions were close ended and focused on current and future website accessibility and webmaster knowledge and experience with various software tools. The following subsections present results that were obtained:

**Expertise of Webmasters:** Webmasters were requested to indicate their level of expertise on which 73% regarded themselves as experts and the rest as intermediate. This could be attributed to the fact that staff in charge of administering websites are usually members of the IT department with formal IT training. Details are presented in table 2.

**Table 2: Expertise of Webmasters**

<table>
<thead>
<tr>
<th>Level of IT Expertise</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expert</td>
<td>11</td>
<td>73%</td>
</tr>
<tr>
<td>Intermediate</td>
<td>4</td>
<td>27%</td>
</tr>
<tr>
<td>Novice</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Not sure</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>

**Creation of accessible websites:** The survey sought if a webmaster had ever created a website that was accessible to users with disabilities particularly visual impairments. 93% of the webmasters had never created such a website and 7% were not sure. Hence none of the webmasters surveyed had ever created an accessible website. Details of the responses are presented in table 3.

**Table 3 Creation of accessible websites**

<table>
<thead>
<tr>
<th>Response</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>No</td>
<td>14</td>
<td>93%</td>
</tr>
<tr>
<td>Not sure</td>
<td>1</td>
<td>7%</td>
</tr>
</tbody>
</table>

**Familiarity with Web Accessibility Guidelines:** The webmasters were asked if they were familiar with any of the accessibility guidelines by the Web Accessibility Initiative. Majority (67%) of the webmasters were not familiar with all the guidelines. Only 33% were familiar with the Web Content Accessibility Guidelines (WCAG). The high percentage of webmasters without knowledge of existing web accessibility guidelines could explain why all the webmasters had never created an accessible website. However given that even the few (33%) that are familiar with WCAG had never created an accessible website could mean that availability of the guidelines alone is not enough but rather a combination of many factors. Details of the responses are given in table 4.
Table 4 Familiarity with Web Accessibility Guidelines

<table>
<thead>
<tr>
<th>Guideline</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web Content Accessibility Guidelines</td>
<td>5</td>
<td>33%</td>
</tr>
<tr>
<td>Authoring Tool Accessibility Guidelines</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>User Agent Accessibility Guidelines</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Not familiar with any</td>
<td>8</td>
<td>67%</td>
</tr>
</tbody>
</table>

**Familiarity with Web Accessibility Laws**: In addition to the guidelines, webmasters were asked if they were familiar with any Web accessibility laws similar to the Web Content Accessibility Guidelines from other bodies or governments around the world. All the webmasters were not familiar with any laws on Web accessibility. Hence webmasters’ knowledge of the global requirements on Web accessibility is very limited which is a negative influence on their perceptions.

**Accessibility of websites**: On whether the websites that webmasters were currently overseeing were accessible to users with visual impairments, all the webmasters indicated that their current websites were not accessible. This correlates to the low levels of awareness about existing Web accessibility guidelines and related laws.

**Awareness about accessibility checking tools**: They were further asked if they were aware that there are software tools that can check a website for its accessibility to people with visual impairments, and provide useful feedback. Only one webmaster was familiar with the availability of such software tools. This further explains why the government websites are not accessible. But given that the one webmaster aware of the tools had also not made his organisation’s website accessible means that there are more reasons why government websites in Uganda are not accessible other than perceptions of webmasters alone.

**Usage of free accessibility tools**: The webmasters were also asked if they had ever used a free web-based accessibility tool, such as bobby. All the webmasters had never used any free accessibility tools. This conforms to the fact that none of the agencies surveyed had an accessible website.

**Usage of screen readers to test websites**: In addition, they were asked whether they had ever tested the accessibility of their websites using a screen reader. Only one had ever used a screen reader to test his website. Given that 100% of government websites are not accessible, the one webmaster that had ever used a screen reader possibly used it on another site other than the one he was currently managing or the testing could have had other motives other than making his agency’s website accessible.

**Plans to make websites accessible**: It was also asked whether the webmasters’ organisations had plans to make their websites accessible to users with visual impairments in the future. Majority (87%) indicated that their organizations had
no such plans, while 13% did not respond to this question. Results of this question confirm that Web accessibility is not yet perceived important for government websites in Uganda.

Because closed-ended questions could not reveal the complete story behind webmaster perceptions and actions, the second part of the survey was made open ended. The open ended questions sought elaborate views from webmasters about the challenges of making websites accessible to people with disabilities in Uganda, who they thought should be in charge of making websites accessible, what would influence them to make their websites accessible, whether they considered making their websites accessible during updates, and whether they considered ethics during planning and updating of their websites. The responses obtained provided a qualitative collection of webmaster perceptions and some overall trends when many responses were indicating similar ideas. These are given in the following sub sections.

**Challenges of making websites accessible:** This question sought webmasters’ views on the challenges of making websites accessible for users with visual impairments in general and government websites in particular: The responses obtained included the following:

- The target audience for most websites are never clearly defined
- Uganda lacks relevant laws for enforcing Web accessibility. The existing laws are old and do not apply to the Web and Internet. In addition, the old laws are weak for example where as they mandate that buildings should be made accessible to people with disabilities, so far very few buildings have been built to meet this standard.
- Web designers are not aware of the existence of Web accessibility guidelines and tools e.g. WCAG and Bobby.
- There are no relevant policies and laws to educate and compel website owners to make their websites accessible.
- There are still a lot of challenges faced in the implementation of IT in organizations such as lack of enough funds, lack of skills among staff and the general population, high cost of acquisition and maintenance hence a number of organizations are yet to install adequate IT infrastructure and services.
- The country’s IT sector is still in infant stages. The government is just beginning to realise the importance of a strong IT sector as evidenced by the recent creation of a ministry of ICT in June 2006.
- High levels of illiteracy: Uganda still has low levels of literacy. This is worse for people with disabilities where about 99% have not had a chance to access formal education

The above responses explain the results obtained earlier in the close-ended questions.
Who should be responsible for making a website accessible: Webmasters were asked who among a webmaster, a systems analyst, a programmer, a help desk manager and a disability compliance office should be responsible for making a website accessible and to give reasons for their choices. 47% felt webmasters, systems analysts and programmers should be responsible. The reason given was that accessibility needs to be considered at all stages of website development hence all people involved in the development process have a role to play. 33% perceived Web accessibility as a purely technical issue hence better managed by systems analysts. To them, systems analysts should be solely responsible for making websites accessible because they are the ones in charge of technical details. 20% were not sure. Part of the responses to this question are in line with the viewpoint of the web accessibility integration model proposed by Lazar and colleagues (See Lazar et al., 2004), while the other part confirmed the strong role of systems analysts/engineers in making websites accessible but also the emphasis on systems analysts/engineers as the only people responsible depicts the low level of understanding of the topic by this group of people.

Factors that would influence webmasters to make their websites accessible: The following responses were obtained:

- Laws requiring all government agencies to make their websites accessible
- Sensitization and awareness for government policy makers and IT staff about the importance of making websites accessible
- Training and sensitization for webmasters and Web developers on building and managing accessible websites
- The number of stakeholders with disabilities such as visual impairments
- Availability of funds to acquire relevant tools
- Knowledge and availability of easy to use tools for the design of such websites

Responses to this question are also in line with the influences of the web accessibility integration model (WAIM). Possibly the accessibility of government websites in Uganda could be improved by nurturing WAIM’s influences.

Consideration of accessibility during website updates: All the webmasters reported that accessibility is never considered during their website updates. The reason for this behaviour is that agencies do not consider making their websites accessible a priority. This could be related to lack of efforts to change society perceptions about the value of making government websites accessible.

Consideration of ethics in planning and updating websites: Webmasters were asked to explain why or why not they considered ethics in planning and updating websites. 47% acknowledged that they considered ethics in planning and updating their websites because ethics is very fundamental in the process of updating their websites. However they noted that they did not consider accessibility as part of the ethical aspects for website management. This can be attributed to the fact that there is still low value attached to making government websites accessible by the stakeholders.
Discussion of findings

The survey established that 100% of the government websites whose webmasters responded to the survey were not accessible to users with visual disabilities. However, a considerable level of webmasters (33%) were familiar with at least one Web accessibility guideline that is WCAG and 7% were aware about the availability of Web accessibility tools. This created a contradiction as to why 100% of the government websites are not accessible when 33% of their webmasters are aware about the availability of web accessibility guidelines. The inconsistency was later explained by the results of the open ended questions. From the responses to open-ended questions, it was established that Web accessibility is not yet perceived important for government websites in Uganda. So far, there is little if any efforts to change society perceptions about the value of making government websites accessible. Stakeholders attach low value to making government websites accessible to people with disabilities such as visual impairments. It was ascertained that this behavior is caused by the following factors: infant IT sector, low priority attached to Web accessibility, lack of awareness about the importance of Web accessibility, lack of training, lack of relevant policies, client ignorance, inadequate software tools, phobia for technical difficulties involved and high levels of illiteracy.

On who should be responsible for making websites accessible, webmasters, systems analyst/engineers and programmers were given as the central people but the role of systems analysts/engineers was emphasised as the pillar for making websites accessible. A number of possible actions that can improve the situation were proposed. The propositions include the following: enacting relevant legislation, sensitisation and training, publication of national disability statistics in the public media, funding and availability of easy to use tools.

Ultimately, the outcomes of the survey point to the need to cultivate the Ugandan environment with Web accessibility influences such as education, laws and training, changing stakeholder perceptions and availing Web accessibility development tools and guidelines. Efforts towards this are a worthwhile starting point towards making government websites accessible to people with disabilities such as visual impairments.

Conclusion and future work

Given that tools and guidelines are available to help in the development of websites that are accessible to people with disabilities, it is surprising that almost all websites in Uganda are still not accessible to them. This study was aimed at establishing why so many government websites in Uganda are not accessible to people with disabilities. Most webmasters surveyed supported the concept of web accessibility but cited roadblocks to achieving accessibility such as the infant IT sector, low priority attached to Web accessibility, lack of: awareness, training, and relevant policies, client ignorance, inadequate software tools, phobia for technical difficulties involved and high levels of illiteracy. While this study focused on webmasters (people who manage existing websites), in the future, web developers are another important group to study.
References


Appendix a: survey questionnaire for webmasters of government Agency Websites in Uganda By: Rehema Baguma, Faculty Of Computing & It, Makerere University.

(This survey is targeted at webmasters of government agency web sites to establish the state of accessibility of government Web sites to Web users with visual impairments in Uganda. It’s part of broader research on E-government Web design framework for improving accessibility for users with disabilities).
Webmasters of government agency web sites, please forward filled questionnaire & any related questions to rbaguma@cit.mak.ac.ug.

Questions

1. Name of employing entity

2. How would you classify your computing experience?
   a. Expert
   b. Intermediate
   c. Novice
   d. Not Sure

3. Have you ever created a website that is accessible for users with visual impairments (blind, low vision and color blind)?
   a. Yes
   b. No
   c. Not Sure

4. Are you familiar with any of the following accessibility guidelines from the Web Accessibility Initiative of the World Wide Web Consortium (W3C)? (Check all that apply):
   a. Web Content Accessibility Guidelines
   b. Authoring Tool Accessibility Guidelines
   c. User Agent Accessibility Guidelines
   d. Not familiar with any accessibility guidelines

5. Are you familiar with any laws similar to the Web Content Accessibility Guidelines from other bodies or governments around the world?
   a. Yes (if yes specify……………………………………………………………)
   b. No
   c. Not Sure

6. Is the website that you are currently overseeing accessible to users with visual impairments?
   a. Yes
   b. No
   c. Not Sure

7. Are you aware that there are software tools that can check your website to see if it is accessible to people with visual impairments, and provide useful feedback?
   a. Yes
   b. No
   c. Not Sure
8. Have you ever used a free web-based accessibility tool, e.g., Bobby?
   a. Yes
   b. No
   c. Not Sure

9. Have you ever used a non-web-based accessibility tool, e.g., A-Prompt, INFOCUS, Page Screamer?
   a. Yes
   b. No
   c. Not Sure

10. Have you ever tested your website using a screen reader? (A screen reader reads the text out loud in computer-synthesized speech.)
    a. Yes
    b. No
    c. Not Sure

11. Does your organization have any plans to make your website accessible to users with visual impairments in the future?
    a. Yes
    b. No
    c. Not Sure

12. What do you think are the challenges of making a web site accessible for users with visual impairments? (Explain your answer).
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    ........................................................................................................................................................................
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13. What do you think are the challenges of making government web sites accessible for users with visual impairments in Uganda (Explain your answer).
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    ........................................................................................................................................................................
    ........................................................................................................................................................................
    ........................................................................................................................................................................
    .........................

14. Who do you think should be responsible for making a website accessible for users with visual impairments? (Check all that apply.)
    a. Webmaster
    b. Systems Analyst/Engineer
    c. Programmer
    d. Help Desk Manager
e. Disability Compliance Office

Explain your answer

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15. What factors would influence you to make your current Web site accessible for users with visual impairments (skip if web site already accessible)?

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16. When you make updates to your website, do you consider the factor of making the site accessible to all users? If yes explain how?

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17. Do you consider ethics in planning and/or updating your current websites? Why or Why not?

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