Challenges to Enhancing Web Accessibility in Saudi University Websites: An Exploratory Study

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Introduction

- The number of government universities in Saudi Arabia has increased dramatically in the last two decades from 7 to 28 [1].

- As a result the number of their websites has also increased without any clear guidelines in place regarding accessibility, which may hinder some users from benefiting from their content.

- University websites in Saudi Arabia are in need to address the barriers that might exclude people with special needs from participation in online educational, social and professional activities [2].

- Although 65.9% of the population of Saudi Arabia uses the Internet [3], web accessibility has remained a problematic issue for Arabic websites in terms of the accurate assessment of whether those with disabilities are able to enjoy their use on equal terms with their non-disabled peers.

Introduction

- Over 700,000 people with disabilities live in Saudi Arabia which represented around 8% of its citizens in 2015 [4].

- Among them, are those interested in or who need to access university websites, for example prospective students, undergraduate students or those pursuing lifelong courses.

- With a low level of web accessibility the number of people excluded from obtaining the benefits of accessing university websites would definitely increase.

- Therefore, this paper contributes to this area by exploring the challenges in designing and developing accessible university websites in Saudi Arabia.

- A better understanding of these challenges would help to inform suggestions and solutions for improving access.

Relevant Studies

- Limited work has been reported on identifying the challenges of designing and developing accessible Arabic language university websites in Saudi Arabia.

- The study conducted by [2] was the only one found to evaluate the accessibility of university websites in Saudi Arabia, however, it focuses on the English version of these websites not the Arabic one.

- A few studies, however, have been conducted to evaluate the accessibility of websites in Saudi Arabia, such as [2], [6]-[10].

- Generally, there has been strong agreement regarding the poor accessibility of the examined websites and a lack of awareness of its importance.

Relevant Studies

- Although each of these studies has its significant impact and contribution on accessibility of Saudi websites, it can be seen that little work has been conducted in identifying the challenges of designing and developing accessible Arabic websites in general and university websites in particular from developers' perspectives.

- In the USA, for example, there have been studies to explore the same perspective, such as [14] and [15].

- Therefore, and to contribute towards this issue, we present our exploration of such challenges in terms of design and development of accessible university websites in Saudi Arabia.

Research Methodology

- Interview

- 15 experts from various Saudi universities were interviewed.

- This paper concerns the perspective of web developers on challenges faced when improving accessibility of university websites.

- Therefore, a person was considered an expert if
  - they had at least two years' experience of university website development in Saudi Arabia or
  - were Saudi university researchers with at least two published papers in this area of research.

- An invitation was sent by email that requested experts' participation.
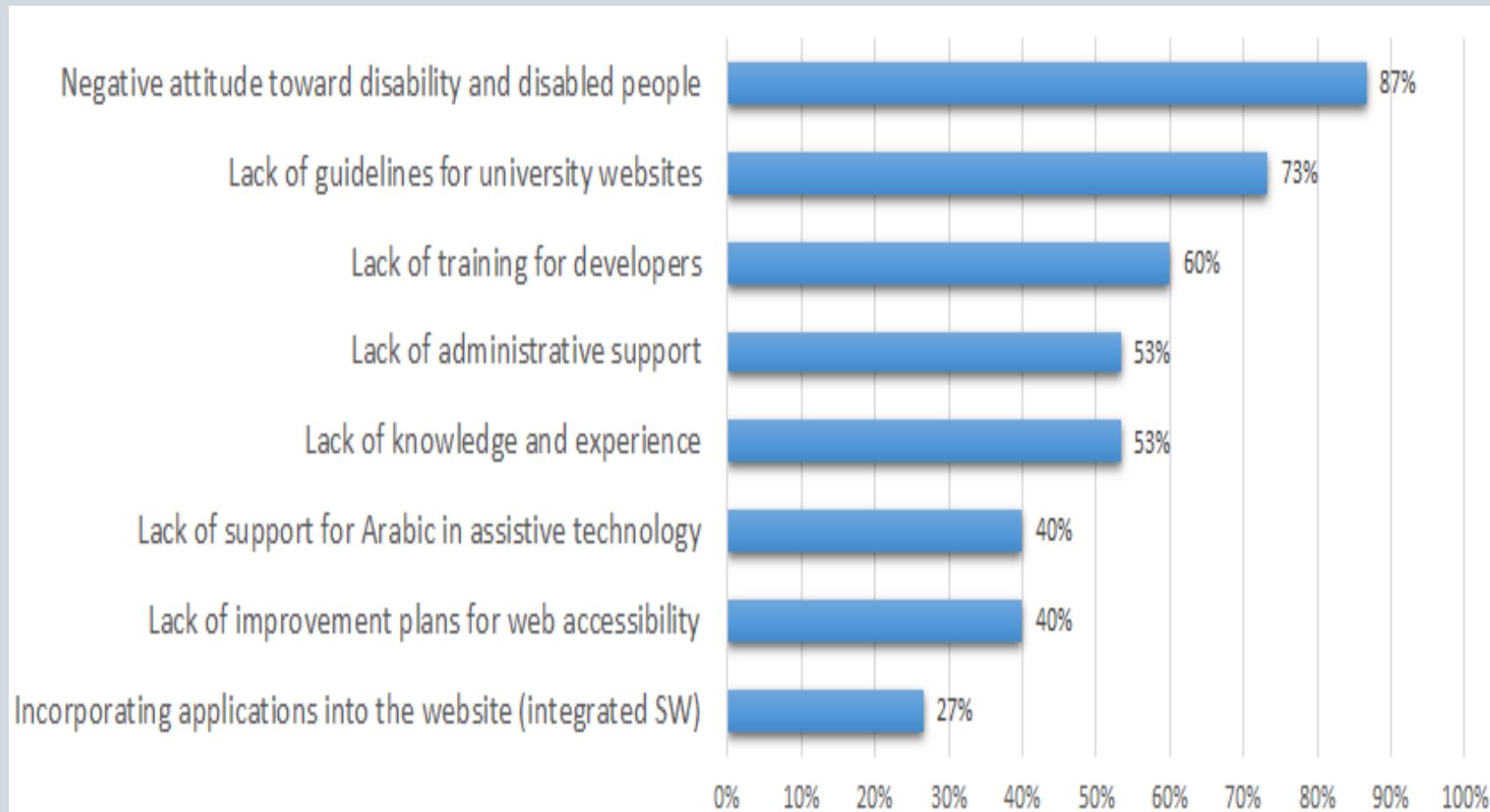
Research Methodology

- 15 of them from 9 universities responded.

- The interviews were conducted face-to-face, over the phone and online.

- Most of the experts (12) were developers or designers, and the remaining three were researchers in the area of web accessibility

- In each interview, the expert was presented with a consent form to sign and then given a brief explanation of the study.

- Open ended questions regarding their opinions on accessibility of their websites and challenges they faced in enhancing their accessibility were asked

- The responses audio recorded by the researcher, after obtaining permission.

Research Methodology

- All the interviews were conducted in Arabic and audio recorded, then transcribed.

- Different techniques including back-translation and bilingual committee approach were followed in this study.

- To analyse experts' responses to the interview questions the interviews were transcribed and saved into NVivo.

- NVivo is a software tool used to manage and understand textual data, and allow for in depth analysis.

- Experts' responses were tagged using NVivo according to analysis themes, collected together into groups and then synthesised

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- In this exploratory study, a number of challenges and obstacles in enhancing the accessibility of university websites in Saudi Arabia have been identified by web designers and developers in these universities.

- A number of them were found similar to findings from other studies investigating the perspective of web developers. They are: lack of training and lack of managerial support.

Limitations:

- The number of experts involved in the study (15 experts) and their spread across government universities in the Kingdom (9 universities).

Future Work

- Further in-depth research is necessary by recruiting participants from all government and private universities which might lead to reveal further accessibility challenges.

- In order to enhance the accessibility in Saudi university websites, the identified challenges and obstacles in this study need to be overcome.

- The successful implementation of accessibility of university websites would allow people with disabilities and special needs to be involved in more activities as are their nondisabled peers and to benefit from the services offered by these websites.

References

1. https://www.mohe.gov.sa/ar/studyinside/Government-Universities/Pages/default.aspx. [retrieved: May, 2016].

2. M. Rana, M. Fakrudeen, and U. Rana, "Evaluating Web Accessibility of University Web Sites in the Kingdom of Saudi Arabia," International Journal of Technology, Knowledge & Society, vol 7 (3), 2011, pp. 1-16.

3. Internet Usage in the Middle East, http://www.internetworldstats.com/middle.htm. [retrieved: May, 2016].

4. http://rs.ksu.edu.sa/82739.html. [retrieved: May, 2016].

5. A. Abanumy, A. Al-Badi, and P. Mayhew, "E-Government Website Accessibility: In-Depth Evaluation of Saudi Arabia and Oman,". The Electronic Journal of e-Government, vol 3(3), 2005, pp. 99-106.

6. M. A. Khan and K. A. Buragga, "Effectiveness of Accessibility and Usability of Government Websites in Saudi Arabia," Canadian Journal of Pure and Applied Sciences, vol 4(2), 2010, pp. 1227-1231.

7. H. S. Al-Khalifa, "Exploring the Accessibility of Saudi Arabia E-Government Websites: A Preliminary Results," In Proceedings of the 4th International Conference on Theory and Practice of Electronic Governance, ACM, Beijing, China, October 25 - 28, 2010, pp. 274-278.

8. H. Al-Khalifa, et al., "A Pilot Study for Evaluating Arabic Websites Using Automated WCAG 2.0 Evaluation Tools," In International Conference on Innovations in Information Technology (IIT), IEEE, April 2011, pp. 293-296.

9. H. S. Al-Khalifa, "The Accessibility of Saudi Arabia Government Web Sites: An Exploratory Study," Universal Access in the Information Society, vol 11(2), 2012, pp. 201-210.

10. A. Al-Faries, H. S. Al-Khalifa, M. S. Al-Razgan, and M. Al-Duwais, "Evaluating the Accessibility and Usability of Top Saudi E-Government Services. In Proceedings of the 7th International Conference on Theory and Practice of Electronic Governance, ICEGOV '13, ACM, New York, NY, USA, 2013, pp. 60-63.

References

11. S. I. AlGain and S. S. Al-Abdulwahab, "Issues and Obstacles in Dsability Research in Saudi Arabia," Asia Pacific Disability Rehabilitation Journal, vol 13(1), 2002, pp. 45-49.

12. M. S. Al-Jadid, "Disability in Saudi Arabia," Saudi Medical Journal, vol 34 (5), 2013, pp. 453-460.

13. S. S. Al-Abdulwahab and S. I. Al-Gain, "Attitudes of Saudi Arabian Health Care Professionals towards People with Physical Disabilities," Asia Pacific Disability Rehabilitation Journal, vol 14(1), 2003, pp. 63-70.

14. J. Lazar, A. Dudley-Sponaugle, and K. D. Greenidge, "Improving Web Accessibility: A Study of Webmaster Perceptions," Computers in Human Behavior, vol 20(2), 269-288.

15. S. Trewin, B. Cragun, C. Swart, J. Brezin, and J. Richards, "Accessibility Challenges and Tool Features: An IBM Web Developer Perspective," In Proceedings of the 2010 International Cross Disciplinary Conference on Web Accessibility (W4A), 2010, pp. 32:1-32:10 .

16. A. Bhattacherjee, "Social Science Research: Principles, Methods, and Practices," Textbooks Collection. Book 3.

17. G. Guest, A. Bunce, and L. Johnson, "How Many Interviews are Enough? An Experiment with Data Saturation and Variability," Field Methods, vol 18(1), 2006, 59-82.

18. R. Brislin, "Back-Translation for Cross-Cultural Research," Journal of Cross-Cultural Psychology, vol 1, 1970, pp. 185-216.

19. R. Brislin, "Translation and Content Analysis of Oral and Written Materials," Handbook of Cross-Cultural Psychology, vol 1, pp. 389-444.