

Usability and Accessibility Analysis of Selected Government Websites in Sri Lanka

S.Gopinath, V.Senthooran, N.Lojenaa
 Department of Physical Science
 Vavuniya Campus, University of Jaffna
 Vavuniya, Sri Lanka
 senthooran@mail.vau.jfn.ac.lk

T.Kartheeswaran
 Department of Computer Science and Technology
 Uva Wellassa University Badulla, Sri Lanka
 tkarthees@gmail.com

Abstract— The websites usability and accessibility standards make more convenient to the internet users. The most of exists websites are failed to follow these standards. Hence, in this research study, we analyze the usability and accessibility standards of highly used websites of Sri Lankan government. The forty-seven government websites are selected to investigate the usability and accessibility guidelines. The above-mentioned guidelines were analyzed using standard online web analytical tools such as WAVE, googlePageSpeed insight, google Mobile-Friendly Test, Pingdom tool, and PowerMapper. Further, the results were analyzed using a weighted method to predict the standard level of the websites.

Keywords: W3C, WCAG, WAVE, googlePageSpeed, PowerMapper, Pingdom

I. INTRODUCTION

The Sri Lankan government uses the advantage of the internet and deployed e-government sector to deliver public service to the citizens. The main goal of an e-government concept is permitted the people of Sri Lanka to gain access to its ministries and departments in an efficient way. The government websites mostly fulfill the e-government job. It is the communication medium between public and government. The government websites are the gateway for the public to access information and services provided by the government. In this decade, a number of internet users in Sri Lanka rapidly increased and people are eager to complete their needs online. So the government websites should be easy to access by all kinds of people including differently abled people and senior citizens. Therefore, universal accessibilities standard for the government websites should be considered in a serious manner. The total of differently abled people in Sri Lanka was 10%, it will increase up to 24.2% by the year of 2040. The population of senior citizens of Sri Lanka also increasing due to better health care service in Sri Lanka. This leads us to consider website contents accessibility and usability issues in current government websites. In this analysis, websites are investigated and evaluated to ensure that the e-government provides not only better service to the general public but also a convenient service to differently abled and senior citizens of the country. Modification in this standard encourages them to carry out more interaction with government websites. At the end of the study, we suggest some improvements and guidelines to design or maintain

better e-government websites that are more usable and accessible to all kind of people in the country.

II. BACKGROUND

The IT literacy of Sri Lanka is calculated as 26.8 percent in 2015 [9]. Sri Lankan government choose the internet as a medium to provide equally available service to every citizen and everyone become a beneficiary of digital advancement of the government. According to the e-government survey conducted by United Nation in 2014, Sri Lanka ranked as 73, e-Government development index is 0.5418 and in e-participation index ranked as 33[5]. Sri Lanka ranks first in southern Asia but when comparing with some other developed Asian countries such as republic of Korea, Singapore, Japan we are far behind. It's cannot be directly claimed that the usability and accessibility standards of government websites are having the most impact on e-government development index but those standards are considered in e-government development index. It's necessary to have static growth in the e-government development index to improve usability and accessibility. Usability improves user's trust in e-government. When the user believes e-government sites are reliable and easy to use. They will revisit the site frequently. The User perceives good response of government by easily usable e-government sites and improves interaction between public and government [2].

Accessibility is an important part of usability. One of the major element of usability is accessibility that means easiness of user with disabilities to access the sites. These disabilities might be blindness, low vision, color-blindness, Inability to use a mouse, slow response time, limited fine motor control, learning disabilities, distractibility, inability to remember or focus on large amounts of information, Deafness, and hard-of-hearing. It is legally and ethically essential to building e-government sites that are accessible by differently abled users. e-government sites should offer equal opportunity to access information, removing some barriers to the communication and interaction that faced by users with disabilities in the real world. In e-government sites, the accessibility standard is legally imposed in some countries. The Digital 21 Strategy of Hong Kong and Japanese Industrial Standard for Web accessibility are some examples for standards maintained in e-government web contents [4]. Making the sites more general and portable and able to use on mobile and other devices is