

Abstract

A study on the evaluation and improvement methods of web accessibility and usability of Korea government department websites

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The web is establishing its position as a driving force of the future which creates wealth through gaining knowledge in the 21st century knowledge based society. However, in a situation which use of the web for obtaining knowledge and information is becoming part of our every day life, disabled people and the aged are not being able to have the benefit of informationalization which has to be enjoyed equally by all people through web services in web sites which does not comply with the web accessibility. Therefore, the objective of this research is to find out about the web accessibility compliance status of Korea government department and the interrelationship between accessibility and usability through an evaluation on web usability of users. Through this it intends to contribute to the improvement of the accessibility level of Korea government department websites through making proposals on problems, improvement methods and CSS(cascading style sheets) practical cases.

This research is carried out being divided into a first evaluation and second evaluation. A Study is carried out on first, the accessibility compliance level of Korea government department websites and second,

whether the site which complies well with web accessibility increases web usability for users through a web usability evaluation.

In the first evaluation, based on the 61 checklists according to the 13 guidelines of the 'Korean Web Contents Accessibility Guidelines (KWCAG) 1.0', a specialist evaluation was carried out on 59 Korea government department. In addition using the KADO-WAH 2.0 and Bobby 5.3 evaluation tool automatic evaluation was carried out. In the second evaluation, 2 places were selected by areas which obtained 90, 80 and 70 accessibility points in the first evaluation and in those areas web usability evaluation of normal and disabled people was carried out according to the 13 Evaluation Guidelines.

The specialist evaluation average point of the first Korea government department accessibility evaluation result was 81.7 points being 9.3 points higher than 2005 but the web accessibility compliance rate of Korea government department turned out to be in the normal level. Especially, highest increase rate was shown in the replacement text compliance rate but there were only 11 places which complied 100 percent. Web accessibility on operation possibility and new technology area using only the keyboard turned out to the most insufficient area.

In the second web usability evaluation result, web sites which comply well with the web accessibility guidelines were observed to increase web usability for both normal and disabled people but web sites which do not comply well were observed to lower the web usability making the web sites unavailable or inconvenient to use. Therefore, it can be concluded that there is a very close interrelationship between web accessibility and usability and thus compliance with web accessibility is not an option but a mandatory requirement. In addition, for researching compliance methods on web standards, an improvement method was proposed on web accessibility problems of Korea government department

websites by creating websites which use CSS and suggesting practical cases.

Hereby, it is hoped that this research can be used as a basic data for improving web accessibility of Korea government department and web accessibility of all Korea websites. In addition, a time which disabled people will not experience double handicap due to double discrimination by allowing them to conveniently use the web and a time which people of various classes who experience difficulty because they are not able to adjust to the complex web site environment can use web sites more conveniently can come within a short period of time.

Key words : web accessibility, web usability, web Standards, website evaluation, CSS, cascading style sheets